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TUBERCULOSIS AS A FOCAL DISEASE *

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It is sometimes important to get a new point of view for those serious problems that are most constantly with us. Like moving from one house to another, it brings to light things that have been forgotten, and loses others that were constantly in evidence. If we can do this with regard to tuberculosis, if we can bring out old facts that have been neglected and see them with a new significance, if we can lose some of our misconceptions that have been too constantly with us, hiding the real significance of what we observe, it may be a profitable use of our time.

GENERAL AND FOCAL DISEASES

A focal infection is an infection of some part of the body, localized by the defensive reactions of the tissues. Tuberculosis is the sum of the defensive local and general reactions of the organism against the tubercle bacillus, and the sequels of such reactions. We have commonly thought of tuberculosis as a chronic general disease.

In a sense we have no such thing as local disease in the human body. Injury to the smallest and most distant part produces general reactions of the whole organism, whether the injury be mechanical, chemical, or due to bacterial invasion or simply to strong emotion. That is what our connecting nervous and vascular mechanisms are for. Any imperfection or excess of such reactions, and also their most perfect adaptation to their purpose, constitute disease. They reach every part of the body. A professional colleague administered an ill-advised remedy to his daughter, resulting in her death. Three months later he pointed out on each of his finger-nails the transverse furrow which marked the influence of the nervous shock on every epithelial cell that had been in a certain stage of development.

What we call general diseases exhibit their characteristic changes only in certain portions of the body, as scarlet fever or measles in the skin and mucous surfaces, or typhoid in the intestinal lymph glands. Away from these regions of acute disturbance, physiologic function is carried on much as in health. Just as in France during the war, beyond the sound of the guns and out of the region of air attacks, the life of the community and the production of food continued along the same lines as it had in the years before the German assault on civilization. At certain points war disorganized everything, destroyed everything, substituted its activity and accumulations for those of peace. The whole nation felt the effect of war; but its characteristic and obvious changes were localized. These were foci of war, and in quite a similar sense we speak of the foci of disease—of focal infections.

Every focus of infective disease is a point of attack and defense, of armed aggressive force. The opposing forces may be for the time accurately balanced, may sink into a state of siege, or only keep up the minor exchanges of trench warfare; but there is always present the aggressive disposition and the possibility of attack intended to annihilate all defense, and carry the warfare into new fields, there to produce a similar devastation. That is the nature and significance of every focal infection.

The typical tubercle is a typical focal infection. It is created by the reaction of the invaded tissue to the injurious influences of a colony of tubercle bacilli, sufficiently numerous and sufficiently virulent to establish themselves in that particular locality, and make their influence felt. It exhibits all grades of pathologic achievement, from massing of leukocytes and the proliferation of fixed tissue cells required to resist invasion, through degenerated epithelioid and giant cells to fatty, cheesy and calcareous masses of cell débris. It is a lesion preeminent in the length of the siege that the invading bacilli can withstand, maintaining their vitality to sally out when conditions become more favorable, and plant new colonies; thus to repeat the same process in other parts of the body. The single tubercle with these characteristics is the organic basis of tuberculosis; the essential feature of the disease, the one that all cases have in common, and the entity complete in itself. Tuberculous organs or regions are areas in which multiple foci have been massed.

The other phenomena that have been grouped in our minds to form the clinical picture of tuberculosis are occasional, incidental and temporary. They belong with coincident infections and complications, or are connected with a certain stage or particular locality of the focus of tuberculous invasion.

HISTORY OF TUBERCULOSIS

The history of our knowledge and recognition of tuberculosis is peculiar. Typhus and typhoid fevers, absolutely distinct diseases, were long confused. "Abdominal typhus," "typhus exanthématique" are terms that still remind us of the period when efforts were made to distinguish between them. Gonorrhea, syphilis and chancroid were all regarded as one disease. The terms "French measles" and "German measles" commemorate the classing with measles of a roseola or rötheln. One dysentery was classed with

* President's address, read before the Medical Society of the City and County of Denver, Jan. 6, 1920.

another, as though they were the same disease, and not in some respects strongly opposed to one another. They still are called dysenteries in loose phraseology; much as the "gutta serena" of older writers embraced whole classes of affections of the deeper tunics of the eye.

But with tuberculosis quite the opposite was the case. Phthisis was one disease, scrofula another, Pott's disease and coxalgia were quite independent. Pulmonary hemorrhage, pleurisy, cold abscess, and lupus were not thought of as having any essential in common, or with meningitis, or chronic pyelitis, or recurring vitreous hemorrhage.

Only when the causative bacillus was recognized and studied, and established as pathogenic, did the finding of it with these different clinical manifestations connect them up into the general modern conception of tuberculosis. So much does locality modify these manifestations, that it never had occurred to the students of disease that they all were of one and the same origin.

When I studied medicine, scrofula was one of the most important, confused and obscure conditions described in the textbooks, and among the first to confront the young practitioner. It was suspected then, as was known a few years later, that it was nine-tenths tuberculous, and one-tenth other confusing chronic conditions. But it had come down to us from Hippocrates as a distinct pathologic diathesis, or constitutional disease resting on a diathetic tendency, for which there was as much prospect of discovering a specific cause as there was for syphilis or tuberculosis. The anatomic investigations of Virchow had only added to the confusion.

Hip joint disease, clinically recognized and studied for 2,000 years, had then been subjected to the microscopic investigation that identified the tubercle. In 1779 the famous surgeon, Percival Pott, had published "Remarks on That Kind of Palsy of the Lower Limbs Which Is Frequently Found to Accompany a Curvature of the Spine." This condition had been followed back toward its etiology far enough to recognize in it the ubiquitous tubercle. The tubercle itself had risen to due prominence in connection with pulmonary tuberculosis through the work of Bayle and Laënnec almost 100 years ago. And sixty-four years ago Villemin had shown that it was infectious.

Koch's discovery of the bacillus caused the rapid crystallization of our present views regarding tuberculosis; but the importance of the latent focus of infection, and its bearing on our theory of etiology and treatment are still not fully appreciated. Even the author of "Cellular Pathology" failed to recognize that what he called "caseous hepatization"—the tuberculous infiltration of Laënnec—was but the débris of the bacteriocellular tuberculosis battle.

THE TYPE LESION IN THE EYE

The single tubercle is the typical lesion of a focal infection; each is complete in itself. The crowding of many tubercles into one larger mass has always tended to obscure the real character of the disease, by raising issues and causing symptoms that were incidental and nonessential; it has tended to draw attention away from the smaller fields of the vital struggle in which the real battle of defense against the invader was being fought. But a single tubercle usually is not recognized in the living body. Generally a large number of single tubercles developed in the same region, as in a lymph node or a lobule of the lung, have been spoken of as the focus of infection.

Much that applies to the single tubercle applies to the larger mass; but a better insight into the nature of the disease began with the anatomic study, the microscopic analysis of the single tubercle; and there are important lessons still to be learned by the study of the evolution of such a lesion, and the careful noting of the symptoms it causes during life. There is one place in the body where such a study is possible, the background of the eye; and when the opthalmoscope has been properly and persistently employed in this investigation, we shall have learned some very important facts with regard to the pathology of tuberculosis. The tubercle present in the ocular fundus varies in dimensions, being 0.1 to 1 mm. or larger. It can be watched often from its beginning to its complete involution. It may be recommended as a subject for study to all who are interested in tuberculosis.

Choroidal tubercles, as a late symptom in tuberculous meningitis or general miliary tuberculosis, were recognized early in the use of the ophthalmoscope. The first report regarding them was made by Manz in 1858. But when they appear in these cases, the patient is nearing the fatal termination of his disease; and only their initial stage became familiar to ophthalmoscopists. If carefully looked for they may be found within a few days of the end, in 50 per cent. of these cases. About fifteen years ago, Stock, experimenting with rabbits, found that tubercles of the choroid, beginning with much the same picture already familiar in the human eye, ran a course that ended in patches of choroidal atrophy, similar to the patches of choroidal atrophy even more familiar in human eyes.

The same series of changes has now been followed out in human eyes, by numerous observers. The connection with tuberculosis in other parts of the body has been noted. The focal reaction of such lesions after subcutaneous injections of tuberculin has been watched. It is established that a certain proportion, and probably a large proportion of the patches of choroidal atrophy found in our routine ophthalmoscopic examinations, are patches of atrophy left by the healing of focal infections of tuberculosis. These atrophies show destruction of the normal tissue, pigment massing, ultimate thinning of scar tissue, sometimes hyaline change or even ossification; but no cheesy or calcareous débris.

More recently still we have come to identify tuberculous focal infections in the retina. For thirty odd years the clinical picture of recurring hemorrhage from the retinal vessels into the vitreous has been recognized as an important ocular condition, causing temporary and sometimes permanent blindness. Ligation of the common carotid has been done for it, sometimes apparently followed by the desired result, but more often by failure.

We know now that many of these hemorrhages, probably all in a distinct clinical group, are due to tuberculous focal infections in the retina. The hemorrhages in some cases are not massive, causing blindness and shutting off the view of the basic lesions with the ophthalmoscope, but are small enough to permit the watching of the causative lesion. In the Colorado Ophthalmological Society we have had the opportunity of watching several of these cases for periods running one, two or three years; and the observations are full

of interest, because of the light they throw on the focal infections of tuberculosis in general.

The retinal tubercle is generally clearly connected with a blood vessel: either an artery or a vein, but more frequently the latter. The vessels thus involved vary from 0.01 to 0.1 mm. in diameter. In the beginning the vessel appears normal, except that at the seat of the lesion it is covered by a yellowish white or grayish white, rounded cloud, with an indefinite margin. This area reaches its full size in a very few days. On either side of the tubercle the appearance of the vessel may remain about normal, or may change slowly. The arteries commonly show little alteration, except that the perivascular sheath may become visible as white lines parallel to the blood column. The veins are more likely to become dilated in limited portions, which may be several millimeters in length. Such a dilated portion may have three or four times the diameter of the normal vein at either end of it; and the dilated part may end quite abruptly. It is as though that part of the venous wall had been weakened by some noxious influence exerted on it, while other parts of the wall remained healthy.

After many days or several weeks, newly formed vessels are seen on the surface and periphery of the tubercle, attended with some increase in the size of the mass and more clouding of its edges (added exudates). The vascularity includes all sizes of vessels from swollen capillaries (which are easily distinguishable with the ophthalmoscope) to vessels almost as large as the trunk on which the tubercle is located. Then, very gradually the reddish gray area shrinks, becomes lighter in color, less vascular, and more transparent so that the fundus red shows through. Finally, the lesion fades away completely, leaving the vessels, the choroid and apparently the retina in the same condition as before the attack. This fact of complete resolution of some retinal foci of infection seems of great importance in its bearing on the possibility of complete healing of tuberculous lesions elsewhere in the body.

More frequently, the stage of peripheral vascularity and exudate does not go on to complete resolution. The gray mass becomes whiter but not transparent. It extends in certain directions, developing into a band or connecting bands of brilliant white fibrous tissue, on the surface of which stand out sharply a reduced number of blood vessels, often still quite tortuous. This condition, known as retinitis proliferans, appears to be quite permanent. It has been observed many years after the original focal infection and period of hemorrhage.

The development of such masses of white fibrous tissue generally, perhaps always, follows hemorrhage. Hemorrhage is at first quite absent from these retinal lesions, although in most cases the loss of vision caused by hemorrhage is the first thing that brings the patient under observation. This is extremely interesting when we remember the long controversy in which many famous names were marshaled in support of the view that hemoptysis was the cause of phthisis. It seems always to be present in cases of retinal tuberculosis; and it is probable that in a majority of cases, massive hemorrhage occurs, arresting attention by great reduction of vision.

The hemorrhage is first observed several days or weeks after the first retinal lesion. In Finnoff's case, which was seen very early on account of corneal lesions and eye strain, the first hemorrhage was found at about the fourth week. From the time they begin they continue to recur so long as the disease remains active, often for many months or years. The tendency to the formation of white fibrous tissue is closely connected with the occurrence of relatively large hemorrhages. Hemorrhage, so far from being the cause of the disease, is one of the defensive resources of the organism, although very disastrous to sight when occurring in this situation. I have twice seen it occur within forty-eight hours after therapeutic subcutaneous doses of tuberculin.

The focus of infection may occur in any part of the eye. In the skin of the lids it has the varied characters of lupus, and in the conjunctiva almost as wide a variety. In both of these structures the lesion is apt to depart rather widely from the typical tubercle; both here and in tuberculosis of the lacrimal passages it is generally difficult, and sometimes impossible, to distinguish the bacillus by the usual staining methods. I would suggest that in these lesions the search be carried on with the help of other than the Ziehl stain. In the cornea, a nonvascular tissue, tuberculosis generally appears as an extension from the anterior chamber, iris or ciliary body. Occasionally the focus has seemed to be originally in the substance of the optic nerve, although much more commonly in the neural sheaths.

UNRECOGNIZED TUBERCULOUS INFECTIONS

From what has been observed in the eye, the part of the body most completely open to observation, the statement seems justified that the tuberculous focus of infection may be found, and may first attract attention, in any organ or tissue of the body. This is generally admitted. What is not generally appreciated is the fact that tuberculous focal infections do occur and pass unrecognized in other parts of the body more frequently than they do in the lungs, lymph glands, spine and hip joint, where they are generally recognized.

The great obstacle to the recognition of a tuberculous focal infection where we are not looking for it has been the fact that there was no tuberculosis where we expected to find it. In one case of ocular tuberculosis, failure to react to tuberculin tests and the absence of any signs of the disease in lungs, bones, joints or notably enlarged glands was supposed by a competent internist to rule out tuberculosis. But a few months later the opening of the skull for organic brain disease revealed a tuberculous meningitis. The diagnostic use of tuberculin is known to fail us sometimes in pulmonary and general miliary tuberculosis. We must admit that its negative showings do not rule out a tuberculous focus of infection in some other part of the body, where such a focus would be less likely to be thought of.

It may be that Naegeli's statistics, showing that, up to the age of 18, 97 per cent. of all persons coming to necropsy have suffered from some focus of tuberculous infection, do not apply generally, and exaggerate the prevalence of such infections. However, only a belief in some such prevalence will eliminate a large number of errors of diagnosis in the direction of failure to recognize such lesions.

When, a few years ago, I had tuberculin given for a chronic choroidal lesion, the reaction of pain and swelling in the metatarsophalangeal joint of the great toe helped to confirm the diagnosis; it revealed a lesion that otherwise would have escaped attention, or its

significance would never have been thought of by the patient. Probably this "confirmation" would have left the diagnosis of tuberculosis subject to a great deal of skepticism on the part of doubting colleagues. But such skepticism would hardly have stood up against the severe tuberculous pleurisy that this patient developed with a new focus in the choroid six years later.

My experiences with tuberculosis have disposed me to look widely for its foci of infection, and accept its great chronicity and prolonged latency or arrest. A woman was supposed to have phthisis in her early twenties, and early death was anticipated. One of her brothers and a sister had died of the disease. But her husband, a farmer, got her a horse and buggy which were always kept for her own use. She scandalized her country neighbors by the amount of time she spent driving about. She always had a cough; and when she died at over 75 years of age, necropsy revealed cavities, calcareous and cheesy nodules, and other foci which were active.

Early in my general practice, I assisted at a necropsy of a patient who died of phthisis; the attending physician explained to us that he expected to find in one kidney the evidence of a tuberculous infection that he had diagnosed as a kidney lesion more than twenty years before. We found there the calcareous and cheesy masses, with active tubercles. Another patient had suffered and apparently recovered from a tuberculous pleurisy ten years before the onset of discoverable pulmonary symptoms that ended three years later in death from phthisis. If there is one lesson of my professional life that stands out more strongly than any other, and which seems to deserve all the emphasis that can possibly be put on it, it is that an enormous number of tuberculous focal infections occur in persons not considered tuberculous by themselves, their friends, or even their physicians.

Perhaps not every one is tuberculous; but successful diagnosis requires that every one presenting symptoms which might arise from a tuberculous focal infection should be assumed tuberculous until the contrary is proved. Above all, we must get away from the error of letting family history, recent exposure, favorable conditions of life, or apparent recent health, influence our judgment of the probabilities of the existence of a focus of tuberculous infection somewhere within the body. All these things are invoked to prove that a lesion is not tuberculous; and they all tend to prevent the recognition of unusual or minor infections.

PATH OF INFECTION

Some very practical points are connected with this conception of tuberculosis as a focal infection. It has often been asked whether the lesion was primary or secondary, and on the answer to this it was sought to decide the plan of treatment. Excision of tuberculous foci in glands, bones, conjunctiva or eyeball has been fairly tried, sometimes with results a little better than those of nonoperative treatment, but in some cases with results distinctly worse.

There has been at times, and in certain people, an almost hysterical fear of the "contagiousness" of consumption, leading to folly and inhumanity in the treatment of those manifestly suffering from phthisis. Health regulations have been ruthlessly enforced by officials who carried in their own persons the active lesions or the latent focal infections of tuberculosis. Such fear and such regulations have been based on suppositions regarding the channels by which tuberculosis is usually transmitted and enters the human body.

When we come to examine the facts, it becomes evident that we know very little about the path of infection. Two portals of entry have received much attention, the respiratory tract and the alimentary canal. But the facts that stand prominently forth in all the accumulated literature are: The tubercle bacillus gets entrance to the body usually long before any of the effects of its presence are recognizable, and often makes itself known first in the interior of the eye, in the head of the femur, or the bodies of the vertebrae. It has been known to enter the body without giving the slightest evidence at the point of entrance.

Possibly when the first manifestations are in a chain of lymph glands, as in the neck or mesentery, these point correctly to the portal of entry. But at the point of entrance there is no evidence of disease; primary tuberculosis of the tonsils or of the mucous lining of the intestine is of extreme rarity. In the great mass of cases the involvement of these surfaces is manifestly late and secondary.

Even in the lungs the evidence of lesion at the point of entrance is contradictory and inconclusive. In the human being, pulmonary tuberculosis is always discovered after the essential lesion has reached an advanced stage of evolution; or it is recognized after the lesion has run its course, broken down and is discharging bacilli. In animal experimentation there are great gaps between the inhalation of the bacilli, and the finding of lesions in the lung. With lupus, in many respects an aberrant form of tuberculosis, the beginning and course of the lesions ally it with internal focal infections rather than suggest that it is an initial lesion.

Only in the wartlike lesions that follow slight injuries to the hands of postmortem workers, and a few cases of tuberculosis of the conjunctiva, is the preponderance of evidence in favor of lesion at the site of entrance. There is just one case on record of tuberculous ulcer of the cornea following lesion from the nail of a tuberculous child.

The evidence we now have indicates that the point of entrance plays little part in determining the location of the primary focus of infection, unless possibly when this is some lymph gland. The bacilli find their way into the circulation without provoking reaction; and in some favorable situation, some point of lowered resistance, establish a colony, a focus of infection. The possibility of the development of such a lesion, and of its subsequent power for extension and general harm, lies in insufficient resistance of the body tissues.

IMMUNITY

The great majority of human beings, at least those living under the conditions of civilization, harbor tubercle bacilli at some time in their lives, just as every country that has attained a social organization harbors anarchists. It may be wise and right to reduce and keep down the infection to a minimum. But for the mass of us the only effective defense that stands between health and a generalized, acute miliary tuberculosis is a certain amount of tissue resistance, of tissue immunity; and it is toward understanding and building up this resistance that the war on tuberculosis must be more and more directed, if it is to be successful.

Some things we know about it: the value of outdoor living, sunshine, rest, alimentation, a cheerful disposition toward the events of life, the value of injecting a specific provocative (tuberculin), when this is not

furnished in sufficient quantity by the focus of infection. But surely there is a great deal more to be learned about this immunity; there is an immense field of labor for the medical profession, in forcing on the community the importance of the facts about it that we already know, and it is the duty of our civilization to see that by legal enactment, by social custom, by individual example, by universal teaching in our educational system, our knowledge is applied in the life of the people.

CONCLUSIONS

Briefly, we have learned that:

The different forms of this focal infection are one disease—the unity of tuberculosis.

A very large proportion of those who suffer such infections never suffer the conditions that were formerly recognized as tuberculous—phthisis, scrofula, bone disease, etc.

At its point of entrance, the tubercle bacillus very rarely provokes any reaction or excites a noticeable lesion.

Foci of infection are established within the bodies of a great many people, where they are kept in check by tissue resistance.

The overcoming of tuberculosis is chiefly a matter of building up and sustaining immunity by wise and careful living.

318 Majestic Building.

Resolutions on Use of Vaccines in Influenza.—At a meeting of the sanitation committee of the Allegheny County Medical Society, a resolution was adopted to cooperate to the fullest extent with the Department of Public Health of Pittsburgh with whose action this committee is in complete accord. Another resolution provided that the committee indorse a request suggested by Major Davis that all physicians in the city of Pittsburgh report their cases of influenza. The committee announces its position with reference to the use of prophylactic vaccine in connection with the present possible epidemic of influenza as follows: 1. There is no evidence to show that any of the so-called prophylactic vaccines which have been used will prevent influenza. 2. No physician or other person has a right from the data on hand to guarantee protection to any individual because of the administration of a prophylactic vaccine for influenza or pneumonia. 3. It is possible that the antipneumococcus vaccine has value in the prevention of pneumonia. 4. Prophylactic vaccination to be protective should be completed before exposure to the disease.—*Bulletin Allegheny County (Pa.) Medical Society.*

A MODIFIED TECHNIC IN OPERATION FOR OBLIQUE INGUINAL HERNIA

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This modification of standard technic for the operative cure of oblique inguinal hernia has been developed over a period of time. It is a product of gradual evolution, in which the basic features are classical; but by a successive adaptation and combination of features that in my experience and observation have been found desirable, the classic has undergone changes and variations. The results have proved quite uniformly successful and satisfactory.

DETAILS OF TECHNIC

STEP 1.—After the patient comes to the operating table, the site of the operation is twice painted with 5 per cent. picric acid in 95 per cent. alcohol. The landmarks of the operative field are located: the anterior superior spine of the ilium, pubic spine, middle of the base of the penis, Poupart's ligament, and the external inguinal ring. An

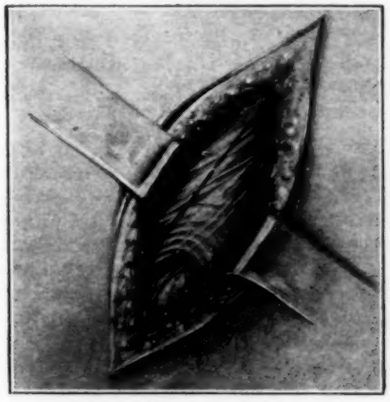

Fig. 1.—Exposure of aponeurosis of left external oblique, showing line of incision not entering the external ring. Ilio-inguinal nerve emerging through external ring.

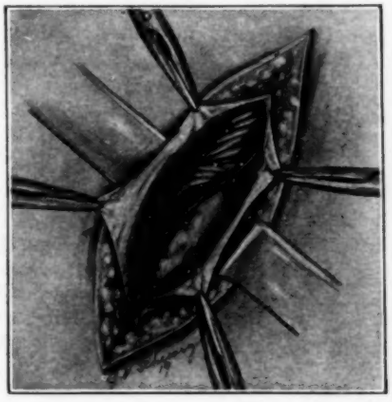

Fig. 2.—Incision has been made in aponeurosis, exposing internal oblique muscle, cord and ilio-inguinal nerve.

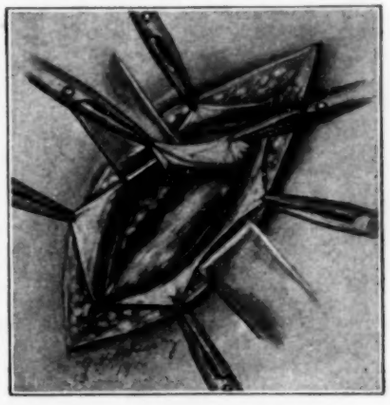

Fig. 3.—The internal oblique and transversalis muscles have been pulled upward, and peritoneum is caught with forceps; cord not disturbed.

incision is made through the skin and superficial fascia parallel to and about three-fourths inch above Poupart's ligament, extending from the external ring upward and out to about one inch beyond midline of Poupart's ligament. Superficial vessels are caught up and ligated. Vessels liable to be severed are the superficial epigastric and superficial external pudic arteries and veins. This incision exposes the aponeurosis of the external oblique and the external ring (Fig. 1). The aponeurosis should be well cleaned by wiping back the superficial tissues to Poupart's ligament below and about 1¼ inches above the incision. Care must be taken not to injure the ilio-inguinal nerve, which sometimes emerges through the aponeurosis above the external ring. The wound is thoroughly dried before the next step.

STEP 2.—An incision is made through the aponeurosis of the external oblique muscle, beginning about one-fourth inch above the external ring and continuing upward in the direction of the fibers of the aponeurosis or slightly across them toward Poupart's ligament to a point just beyond the internal ring (Fig. 2). By cutting slightly diagonally across the fibers, the exposure of underlying structures is facilitated. With the handle of the knife the inside of the aponeurosis is cleared first downward along the shelf of Poupart's ligament from the internal ring to the pubic spine, then upward exposing the internal oblique muscle, the internal ring, the conjoined tendon and the sheath of the rectus. Care must be taken not to injure the ilio-inguinal nerve

lying either along the cord or on the internal oblique muscle, or the iliohypogastric nerve which sometimes comes through the internal oblique muscle low down. Generally it is found in the upper external angle of the wound (Fig. 6).

STEP 3.—The handle of the knife is then placed between the conjoined tendon and the cord, and separates those structures and the muscles up to the internal ring.

STEP 4.—The internal oblique and transversalis are put on the stretch and a retractor is inserted to pull those muscles upward, exposing the peritoneum above the internal ring. This frequently bulges like a sac (Fig. 3).

STEP 9.—The free borders of the internal oblique and the transversalis are caught together in two forceps and turned upward, exposing the posterior surfaces of these muscles, to which is sewn, at about three-fourths inch from the free border, the upper edge of the cremaster muscle, continuous small plain catgut being used (Fig. 7). This covers the cord down to a new ring just above the spine of the pubes. One should avoid catching the ilio-inguinal nerve in this suture.

STEP 10.—The free borders of the internal oblique and transversalis muscles and the conjoined tendon are now

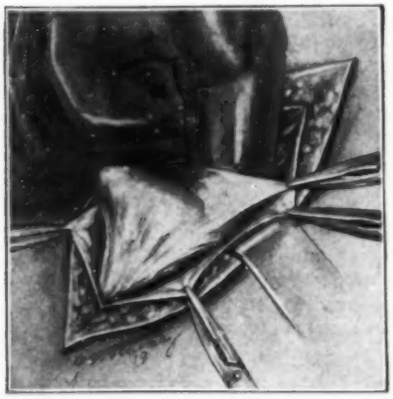

Fig. 4.—The peritoneum has been incised; the finger enters the sac from above downward; neck of sac is about at crook of finger.

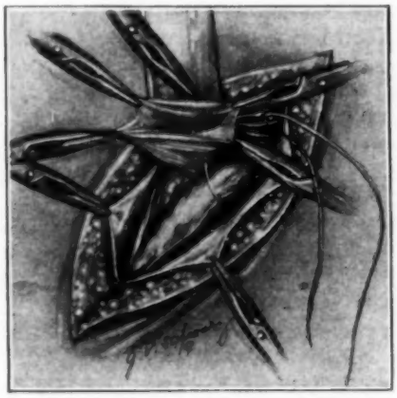

Fig. 5.—Sac being tied off well above neck, above incision in peritoneum. (This illustration represents a very small sac which has been split to its tip.)

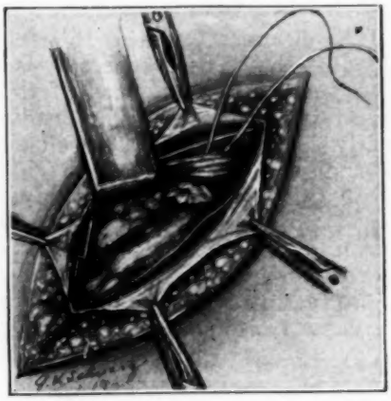

Fig. 6.—Dislocation upward of ligated peritoneal opening. The iliohypogastric nerve is shown in the upper angle of the wound lying on the internal oblique; it is frequently injured by suturing.

STEP 5.—The peritoneum is caught up and incised between two forceps. This incision is made in the peritoneum proper above the neck of the hernial sac, which can now be located by viewing it from above and by the insertion of a finger into the sac. This one step has greatly facilitated the search for the sac; in fact, no search is needed.

STEP 6.—The finger is inserted into the sac from above, and the sac is freed from surrounding tissues by gauze dissection (Fig. 4).

STEP 7.—The sac is then ligated by transfixion in the usual manner, but the ligature surrounds the opening in the peritoneum, thus insuring absolutely the removal of every vestige of the sac (Fig. 5).

STEP 8.—The neck of the sac, or rather the pucker of peritoneum, is dislocated upward beneath the internal oblique and transversalis, the ends of the tie-off ligature being passed through those muscles about three-fourths inch above the internal ring (Fig. 6). The cord has not been disturbed nor removed from its bed.

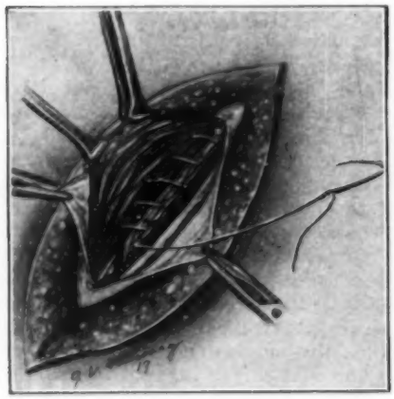

Fig. 7.—Free borders of the internal oblique and transversalis muscles are caught together and everted, exposing posterior surface; upper edge of cremaster is sutured to posterior surface of transversalis about three-fourths inch from the border; the cord is buried beneath the cremaster.

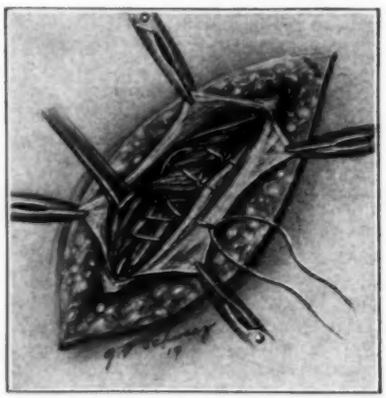

Fig. 8.—Free borders of internal oblique and transversalis muscles are sutured to shelf of Poupart's ligament.

united to the shelving portion of Poupart's ligament by chromic catgut or kangaroo tendon, substantial bites of the muscle being taken (Fig. 8). The sutures are tied without undue tension. The cord emerges over the pubic bone beneath the lowest suture. The two nerves mentioned should be avoided; frequently the iliohypogastric is quite low enough to be caught. The lowest suture should also include the external edge of the sheath of the rectus for strength, especially when the conjoined tendon is defective.

STEP 11.—The aponeurosis of the external oblique is brought together with plain catgut, if necessary, reinforced by imbrication. The external ring has not been molested. It is sometimes advisable to make it smaller by one or two sutures.

STEP 12.—The superficial tissues are closed by any of the usual methods.

ADVANTAGES OF THE TECHNIC

This method results in:

1. Easy and unmistakable location of the sac.
2. Assurance of the absolute removal of the entire sac *well above its neck*.
3. Removal of peritoneal pucker from the area of weakness by dislocating it upward beneath solid muscle.
4. Strong repair of the muscular and aponeurotic coverings.

U. S. Naval Hospital.

Keep the Farmer Well.—A large part of the land in the richest sections of the South, and to a less extent in the North as well, is today partially or wholly unproductive on account of being overrun with malaria, with a consequent loss of millions of dollars. Every case of malaria or other efficiency reducing disease means that the output of food is appreciably reduced and that the shortage is immeasurably increased.—*Bulletin*, State Board of Health of Rhode Island, August, 1919.

SPINA BIFIDA OCCULTA IN A CHILD WITH INCONTINENCE OF URINE AND FECES

IMPROVEMENT IN VESICAL CONTROL AFTER OPERATION *

JEROME S. LEOPOLD, M.D.
NEW YORK

The great majority of cases of spina bifida occulta have been noted in early adult life; its presence in childhood is uncommon enough to warrant the publication of a report of an instance that came under my observation.

According to Brickner,[1] "spina bifida means bifid spine, and that individual has a spina bifida who has a cleft in the spine whether or not there is a protrusion of the spinal structures." The term "spina bifida occulta" was first employed by Virchow in 1875, when he reported a case of spina bifida with the lesion concealed beneath the skin.

Since reading Brickner's article it has been our routine procedure to have roentgen-ray examinations made of the spine in all children presenting partial or complete incontinence of urine. As a result, the positive diagnosis in the case here reported was promptly arrived at. It is our firm conviction that not a few cases of enuresis in children are due to spina bifida occulta.

REPORT OF CASE

History.—E. F., girl, aged 6 years, admitted to the A. Jacobi Division for Children of the Lenox Hill Hospital, May 1, 1919, was born after normal labor, birth weight unknown. She was artificially fed; the first tooth appeared at 7 months. The patient talked and walked when 1 year old. She had had varicella and measles, and had always been irritable and "nervous." Eight months before the tonsils and adenoids had been removed. An older brother had had chorea, and had always been irritable, and now had nocturnal enuresis. The mother was poorly developed and of a nervous temperament. She had had no miscarriages. The father had syphilis ten years before (four years before the birth of our patient) for which he received treatment at this hospital.

The present illness started about one year prior to admission, when the patient was 5 years old. She began to lose bladder control at various times. Interference with vesical function gradually became more constant, and was soon accompanied by rectal incontinence. These symptoms became progressively worse, so that at the time of admission to the hospital there was almost complete loss of control both of the bladder and the rectum. There had been no remissions or intermissions. The patient had suffered no injury, nor was there a history of any illness to which the present complaint could be referred. The child was well advanced at school, and played and talked with other children in a normal fashion.

Examination.—On admission to the hospital, the child was fairly well developed, weighed 36 pounds, and the general condition was good. The general physical examination was negative.

Nervous system: The knee jerks were very active. There was no ankle clonus, and no Babinski phenomenon nor other abnormal reflexes. The superficial abdominal reflexes were present. No sensory and no motor disturbances were discovered after a very thorough examination, in which the patient coordinated well.

Back: There was a fairly well marked, compensated left lateral scoliosis with some asymmetry of the left chest-wall, posteriorly. Over the upper part of the right buttock, just to one side of the median line, there was a small blind pocket or dimpling of the skin. Hypertrichosis, often associated with spina bifida occulta, was absent. There were no trophic disturbances.

The Wassermann reaction of the blood and the Schick test were negative. The von Pirquet reaction was positive. The urine was negative. The blood examination on admission was: white cells, 8,000; polymorphonuclears, 40 per cent., and lymphocytes, 60 per cent.

Roentgen-ray examination by Dr. W. H. Stewart disclosed a typical spina bifida, the upper arches of the sacrum being lacking, as shown in the accompanying illustration.

The chief points of interest in this case were: (1) the history of one year's duration of loss of bladder and rectal control; (2) the blind pocket or dimple in the skin over the sacrum, and (3) the positive roentgen-ray findings.

The history of incontinence together with the presence of a small dimple in the skin just over the sacrum made us very certain that we were dealing with a case

Spina bifida of the sacrum, with a distinct cleft in the first sacral arch and the absence of the remaining sacral arches.

of spina bifida occulta. The roentgen-ray examination, which showed a distinct cleft in the first sacral arch and the absence of the remaining sacral arches, confirmed the diagnosis.

According to C. H. Frazier,[2] symptoms in spina bifida occulta may be present at birth, but more often they do not appear until early adult life, when the membranous band between the cord and the epidermis begins to compress or pull on the cord and nerve roots. There may be present motor, sensory or trophic disturbances in the lower extremities. Incontinence of the bladder and rectum are often present. At times there are defects and malformations in other parts of the body.

In this connection it may be of interest to mention that Brickner divides cases of spina bifida occulta into these groups: (1) with external signs and with symptoms; (2) with external signs without symptoms; (3) without external signs with symptoms, and (4) with-

* From the A. Jacobi Division for Children of the Lenox Hill Hospital.

1. Brickner, W. M.: Am. J. M. Sc. **155**: 473 (April) 1918.

2. Frazier, C. H.: Surgery of the Spine and Spinal Cord, New York, D. Appleton & Co., 1918.

out external signs without symptoms. According to this classification, our patient comes under Group 1, since there were present external signs (dimple) with symptoms of incontinence.

In some reported cases of spina bifida occulta with symptoms of disturbed sphincteric control, and in others with severe trophic disturbances in which lipomatous tumors and hernias of the cauda equina were found, operative procedures have been of great benefit. At times, simple separation of the membranous bands between the cord and epidermis has resulted in relief of all symptoms.

Course and Treatment.—During a period of three weeks' observation in the hospital, the patient manifested loss of bladder and rectal control, practically daily. In view of the fact that the disturbed sphincteric control had been increasing progressively during the year's illness, an exploratory operation seemed advisable. Accordingly, three weeks after admission to the hospital, operation was performed by Drs. Willy Meyer and W. M. Brickner. A semicircular incision was made through the skin and subcutaneous tissue over the sacral region. The incision started at the level of the first sacral vertebra, curved to the right, and ended at the last sacral vertebra, so that the concavity was toward the median line. The skin flap was reflected, and the incision was extended upward in the right paravertebral line to the last lumbar vertebra. The fascia over the sacral ligaments was divided in the median line and retracted. A small amount of fatty tissue was removed from the field. Examination then revealed the cleft in the laminal arch of the first sacral vertebra. Furthermore, the remaining sacral arches were practically absent, the defect increasing in diameter as the exposure was extended toward the anus. The operative field consisted of a view of the posterior aspect of the body of the sacrum, the sacral canal being exposed to view.

The laminal arch of the fifth lumbar vertebra was resected with bone forceps to obtain better exposure. No advantage was gained by this procedure, as the spinal canal ended at the fifth lumbar-first sacral intervertebral space, and it was decided that to open the spinal canal would be of no avail. The condition was judged to be beyond surgical relief. The fascia was sutured with chromic catgut, the subcutaneous layers were sutured with plain gut suture, and the skin was closed with silkworm gut.

The findings at operation corroborated the roentgen-ray examination in a very precise manner. While the bony defect was easily recognizable, the nerve lesion, if there was such, was not discovered.

In this case there was no hernia of the cauda equina, and no fatty tumor.

Postoperative Course.—During the four weeks following operation, while the patient remained in the hospital, there was no incontinence of urine or feces. She was then sent home, and for one week she had complete control of the rectum and bladder. After that period, however, she lost control of the rectum, and this condition has persisted up to the last report, which was five months after the operation. For some unexplained reason, however, the patient since operation has retained full control of the bladder function.

In view of the operative findings, it is difficult to see how the operation could have had any effect. One can only advance the suggestion that possibly the fixed scarlike dimple in the skin over the bifid spine resulted in a tug on the membranous posterior wall of the sacral canal and thereby affected some of the roots of the cauda equina concerned with vesical function. If this was so, the separation of this puckered area from the underlying sacral canal, as carried out at operation, may have had the described effect on bladder control.

701 Madison Avenue.

MESENTERIC, OR ENTEROGENOUS, CYST

CHARLES STANLEY WHITE, M.D.
WASHINGTON, D. C.

The infrequency of the mesenteric, or enterogenous, cyst and the obscurity of the symptoms are indicated by citing the statement of Miller,[1] that but thirty-five cases were reported up to 1913, and in none of the cases was the diagnosis made prior to operation or necropsy.

The etiology remains clouded, diverse views still obtaining, chiefly expressed as dilatations of mesenteric lymphatics and sequestration of the enteric canal. Briefly stated, the histologic characters differ somewhat; the cyst wall is devoid of mucous membrane in several of the reported cases, and these have fostered the opinion that the growth is entirely mesenteric. In the majority, however, the lining of the cyst bears a close resemblance to the epithelium of the intestine, even to the extent of containing villi and muscle fibers. The tumor is invariably congenital and situated at the mesenteric attachment of the small intestine. By some it is believed to be an erratic development of Meckel's diverticulum.

The symptoms are those of a movable tumor or intestinal obstruction and frequently an amalgamation

Fig. 1.—Intimate relation of cyst to intestine.

of the two entities, and it is because of its protean characteristics that the proper interpretation of the symptoms is not easy. So frank are its manifestations of obstruction that any other diagnosis is impossible in some instances, while, on the other hand, a movable tumor in any quadrant of the abdomen forces the conclusion that we are dealing with a floating kidney,

1. Miller: Bull. Johns Hopkins Hosp. **24**: 316, 1913.

ovarian cyst, enlarged gallbladder or pedunculated uterine tumor. So variable are the symptoms that few remain which are pathognomonic.

REPORT OF CASE

A boy, aged 4 years, was first seen in December, 1914, and at this time no diagnosis was made. Dr. E. P. Copeland

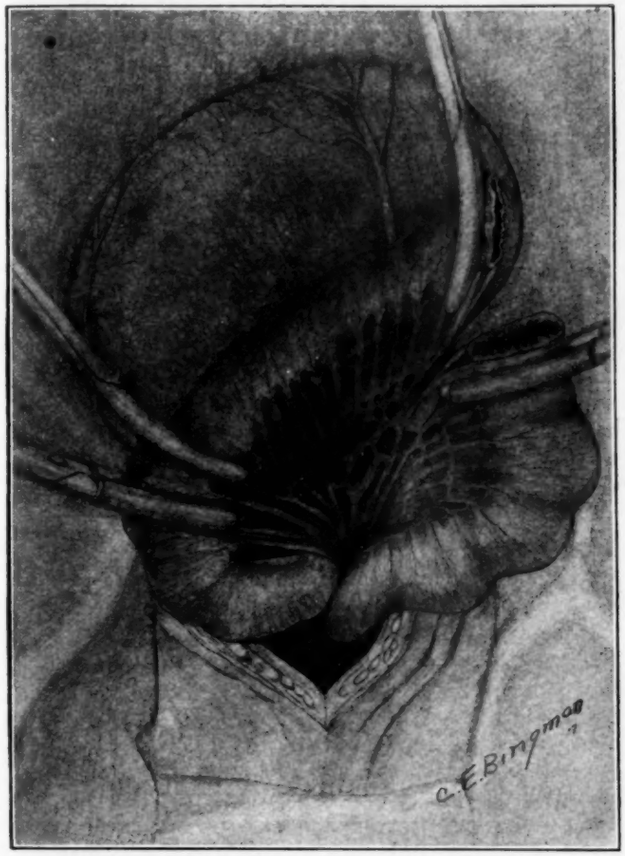

Fig. 2.—Cyst detached.

assumed charge of the patient and later reported the case.[2] It is with his permission that the following paragraphs are incorporated here:

"In December, 1914, approximately a year before my first examination, the patient became suddenly ill in the night, with an attack characterized by extreme nausea and severe vomiting and the appearance of a rounded tumor in the hypogastrium, simulating a distended bladder. The vomiting, to judge from the description, was simply bile-stained gastric juice and at no time stercoraceous. The tumor was elastic, but not especially tender to touch. There was no history of previous disturbance in the regularity of the bowel, as to constipation or diarrhea. Fever was not present.

"The physician called at the time had evidently made a diagnosis of intussusception and had completed plans for an immediate removal to the hospital for operation. Returning a few hours later for the patient, he had been, as could be well imagined, much surprised to find that the mass had spontaneously disappared and the patient recovered.

"After this initial appearance, these attacks had recurred at varying intervals, seldom less than three weeks and on several occasions as long as six weeks. They had varied in the severity of associated symptoms and likewise in duration, seldom, however, lasting over two days. The tumor had invariably appeared first over the region of the bladder, sometimes larger, sometimes smaller, moved about the abdomen spontaneously, and finally disappeared. Its appearance had always been associated with nausea and vomiting, and its disappearance with a pronounced paroxysm of abdominal pain. Following the first attack there had been some tendency to constipation, but the bowels had been kept freely open by the daily employment of mineral oil by mouth. The diet had been well regulated, and in the intervals the patient had quickly recovered lost weight. Ordinarily the child was quite normal, played actively, and appeared in good health. No prodromal symptoms had been observed.

"At the time of the first examination, I found the patient in bed lying on his back, thighs partially flexed. The attack was several hours old, and there was still some nausea. Presenting in the hypogastrium was a smooth tumor about the size of an orange, elastic, but not tender to touch, and dull on percussion. It was palpable by rectal examination and suggested strongly a distended bladder. The mass was, however, freely movable, it being possible, without undue force, to manipulate it about the entire abdomen. There was a fairly well-pronounced beading of the ribs. The pulse rate was rapid, but regular. The temperature normal. A leukocyte count gave 11,500. The von Pirquet and Wassermann tests were negative. No further significant facts were observed.

"Under restricted feeding and large enemas slowly administered, the mass spontaneously disappeared. An examination of the abdomen subsequently was absolutely negative."

The roentgenologist made an exhaustive roentgen-ray study, and concludes his report in this manner:

"Finding: A tumor mass the size of a large orange is palpated in the right upper quadrant. The bismuth injection showed the mass to be redundant descending colon. Visualized palpation reduced the tumor."

Dr. William Gerry Morgan, in March, 1917, examined the patient and found a movable tumor, with intermittent attacks of intestinal obstruction. At this time the hemoglobin was 83; red cells, 5,950,000; white cells, 11,600; polymorphonuclears, 67.5 per cent.; lymphocytes, 18 per cent. The urine contained albumin, indican, urea, 3 per cent., casts and excess of urates.

Dr. Francis Hagner saw the child in consultation, and suggested a possible cyst of the urachus.

On operation, April 4, 1917, an enterogenous tumor of the ileum was found about the size of a baseball. It was impos-

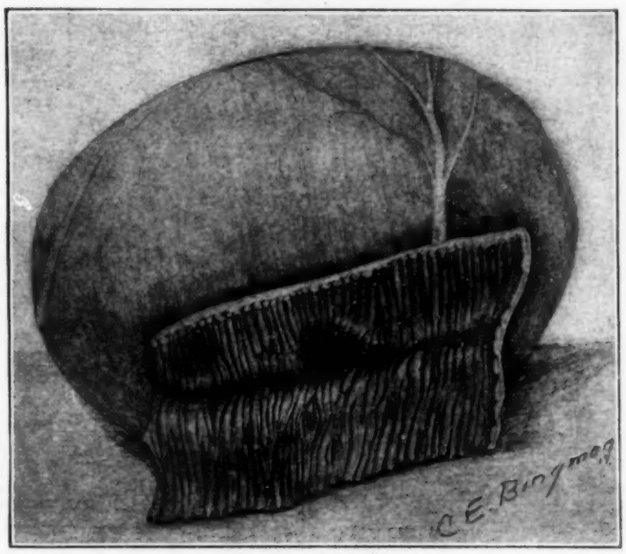

Fig. 3.—Interior of cyst.

sible to shell it out, and the only feasible operation was resection of the bowel. The child made a smooth recovery and has been well since.

Dr Lindsay reported as follows:

"Large cyst with membranous attachment, taken from the mesentery. On gross section, wall of cyst and mesentery have thickness of 0.5 cm. Cyst wall resembles similar sections of thickened intestine or stomach wall. There is a blood clot adherent to the wall internally directly opposite

2. Acker, G. N., and Copeland, E. P.: Transient Abdominal Tumor in a Child of Five Years with Redundant Colon, Am. J. Dis. Child. 12: 602 (Dec.) 1916.

the mesenteric attachment. Sections in regions of blood clot show muscular and fibrous tissue with a hemorrhagic area corresponding to the clot. The surface is covered with a layer of fibrin containing blood cells and a narrow layer at one point in outline resembling the intestinal mucous membrane, though gland elements are not present. Sections at region of mesenteric attachment show quite well preserved layer of mucous membrane, long villi and deep crypts being definitely recognized. Beneath this is a layer of muscle. None of the sections show evidence of malignancy."

COMMENT

The symptoms were consistent with the conditions found at operation. The tumor, while not communicating with the intestinal canal, probably varied in size at times owing to the torsion produced on either side when it rotated on an axis parallel with the intestine; and the same torsion was responsible for the enteric obstruction. It may well be compared to a hammock which had been turned over, twisting its supporting ropes.

The conspicuous and significant symptoms were the resilient, freely movable tumor with intestinal obstruction of an intermittent type, a low leukocyte count, sudden onset and rapid recovery in each attack, and the age of the patient, 6 years. The roentgen ray was of no aid, but on the contrary was misleading, as the dilated colon noted in the roentgenologist's report was undoubtedly small intestine, filled by bismuth through an incompetent ileocecal valve.

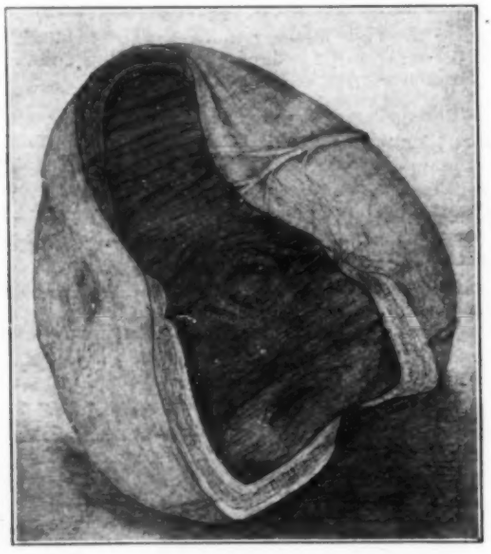

Fig. 4.—Relative thickness of cyst wall.

911 Sixteenth Street.

Cleansing Arsphenamin Apparatus.—DR. JOHN B. DONALDSON, Lorain, Ohio, writes: After giving arsphenamin or neo-arsphenamin injections I always disconnect the rubber tubing and run hot water through it for a few minutes as well as washing the glassware; but I have noticed that if the connected outfit is allowed to stand with distilled water in the arsphenamin side, quite a yellow tinge develops in the water. This indicates that there may be sufficient arsphenamin or neo-arsphenamin in the container and tubing to decompose and produce a toxic reaction at the next administration unless thorough washing is done. I have recently run sterile distilled water through the outfit before using as an extra precaution. It is to be inferred that we clean the intravenous outfit before sterilizing it; but the point I wish to bring out is that the thoroughness with which it is done is more necessary than I had supposed.

THE MYENTERIC NERVE NET

A DISCUSSION

G. K. DICKINSON, M.D.
JERSEY CITY, N. J.

From biologic studies it must be inferred that the sole reason for life—vegetable, animal and human—is to continue the species, and that man's superior brain and body are for the purpose of better protecting the germ plasm as well as for social life, the pleasure of work and the joy of mental effort. We worship the mind and its products, and outwardly we suppress the instincts begotten by Nature. We might be deprived of all but the essentials, circulation, digestion and reproduction, and yet maintain the race as do the lower animals. Man lives but to propagate.

These primitive essentials, all important for life and its perpetuation, are carefully secluded and separated from the outward man, which is under the control of a wilful and highly developed nervous system: such intercommunication as exists being entirely beyond the control of the mind. The actions and functions of these three sets of organs are largely autonomic, and in the history of all time it is noted that they are the oldest.

The biology of the kinetic systems of the heart and genitalia have been well stated, but not that of the enteric system.

EMBRYOLOGY OF ENTERIC SYSTEM

About the end of the second week after fecundation, the first evidence of the stomach is found, the development of the intestine following out a definite plan of evolution. As in early life we have the stomach without the intestine, so in early fetal life we have the stomach first; then from it extends progressively the intestinal tube down to meet the hindgut. It has been evolving since the beginning of life and has felt the influence of conditions which tend to modify as well as create, so that the digestive apparatus, as a result of evolution, is the simplest and most perfect, the tissues entering into its structure being still primitive. Evolution invariably develops simplicity of structure and function in the end; and in this instance there is no exception, but a wonderful demonstration of the relation of simple tissue to the essential needs of a highly developed animal.

In the 10 mm. embryo the circular muscular layer of the intestine is first demonstrated, the longitudinal layer appearing in the 75 mm. embryo. Between these two layers from the mesenchyme is developed a syncytium out of which further develops the intestinal tract. On the inner side can be seen the spindle cell muscle extending to the circular layer, and on the outer side similar cells extending to the longitudinal layer. In this mesenchyme develop all the other tissues which go to form the structure of the intestinal wall: blood vessels, lymphatics, fibrous tissue and nerve net.

Early in embryonal life there bud out ventrally from the spinal ganglions prolongations which become the sympathetic plexus. From it, cells migrate farther inward to the intestinal tract to enter its structure. From the hind brain (the intestine being close to it in early life) there wanders a nerve which also passes to the intestine and through its walls, terminating in numerous gray ganglions approximated to the longi-

tudinal layer. Because of the wanderings of this nervous structure it is later called the vagus.

As the intestine grows from above downward, it passes by an accumulation of nonstriated fibers, which eventually go to the skin and subdermal tissues. Part of this dermal muscular mass is picked up by the intestine and carried down with it, later to be found at the three sphincter points: pylorus, ileocecal and internal anus.

We have a third type of muscular tissue developed in the intestinal tract. To understand it, we must go back again to biology. In the nine months during which the egg grows into the mature child, all the changes and steps which life has undergone in eons are recapitulated. Morphologically and histologically, we see in the developing fetus much that can be found in the lower forms of life; and by studying low life we often come to a better understanding of conditions in the human.

In the sponge, we have evidence of muscular action. The microscope discovers no nerve tissue, but a muscle cell which is neuromuscular, having the properties of irritability, contractility and conductibility. It will receive an impression, contract, and call on neighboring muscular tissue also to contract. In forms higher up, such as the anemone and starfish, we find end organs which receive impressions and filaments that look like nerves running to the muscular cell. Somewhat higher in the scale we find ganglions, so that we have a nerve ganglion connected with muscle resulting in more efficient action. This type of nerve is called neuroid.

From the processes of development and from microscopic demonstrations one would judge that the neuroid fibers developed from the muscular. Certainly with this type of muscular tissue there is a great deal in common. Keith has discovered in the intestinal tract this primitive type of neuromuscle, particularly noticeable at points of polarization: the cardiac end of the stomach, pylorus, ileocecal region and large intestine. This neuromuscular tissue is difficult to differentiate from nerve tissue.

Through the entire intestinal tract, from the beginning of the smooth fiber muscles in the esophagus to the rectum, we find a definite close mesh of what has been called nervous tissue, discovered by Auerbach and named for him. It is slender, flattened, covered by endothelial membrane and connected with the ganglions which are the termination of the pneumogastric and the terminal filaments of the sympathetic nerves. It is also connected with the neuromuscular tissue of Keith.

The deductions from Keith's work are that this plexus, or nerve net, is really a modified muscular tissue, a syncytium retaining its connections from early embryonal life, that it developed in the mesenchyme and from the mesenchyme, that it did not migrate in with the sympathetic nor with the pneumogastric nerve, and that it differs from other nervous tissue histologically, chemically, embryologically, biologically, and in innervation and staining properties.

It is analogous, if not similar, to the nerve net of the heart, which is connected with and activated by the sinu-auricular node and the bundle of His, which we know stimulate the heart action through the Purkinje fibers.

It can be seen that in the intestinal tract we have developed conditions which will permit of slow and conservative adjustment to the vegetative processes demanded of it; that we have three types of muscular tissue which are serving a different purpose, three types of nervous tissue, all coordinating and cooperating, yet independent.

PHYSIOLOGY OF THE INTESTINE

The physiology of the intestine is that of its component parts. We have, as stated before, three types of smooth muscular cells in the body, and chemically and embryologically we note the difference. In the skin, in the structures which have developed from the wolffian body and the duct of Mueller, and in the sphincters of the intestine, we have the dermal type; in the remainder of the intestine, in the heart and in the spleen, the second type; and in the neuromuscular tissue of Keith, the third. All of these have different biologic properties and physiologic actions.

All cell activity is maintained by the electrolytes circulating in the blood. The sodium in particular has the property of developing electrical forces, especially in the type of muscle cell we have under consideration. The calcium electrolyte controls the effect of the sodium salt, if too active. The several muscle cells react differently to this physicochemical process, and all tissue of this type is constantly contracting and relaxing as a result of this stimulation. It is termed embryonal because early in embryonal life, before there is any nerve tissue formed, the primitive muscle cells are contracting and relaxing. This is seen in the cardiac tube and in the primitive stomach, and biologically we find the same conditions existing in lower forms of life.

As the content of the stomach, acid in reaction, passes into the duodenum and encounters an alkaline fluid, it effervesces and becomes frothy. This increases the amount of distention and acts as an irritant to the muscle cell. Myogenic contractions occur, contractions which are independent even of the nerve net. They are slow, not forceful, and do not produce marked anemia of the substance. Then there is gentle relaxation; this process is repeated until apparently fatigue of muscle ensues; then it stops and is taken up elsewhere in the intestinal tract. This is the rhythmic movement of the physiologist. If the distention is greater, the nerve net is called into action and we have initiated the peristaltic wave, first noted by Cannon and best explained by Sherrington. In the body, when the flexor muscle is called on for action, there is an inhibitory effect thrown on the extensor in order that the flexor may act. This is true also in the intestine. If a contraction is to be instituted in any part, induced by the net, as the flow of nerve energy is always peripheral, toward the anus, there will be a relaxation of the muscles distal to the point of contraction, thus enabling the intestinal content to be more easily pushed forward.

There are times when not only the circular but also the longitudinal fibers are brought into action. This produces a peculiar motion which is termed the pendulum. The neuromuscular cells are pace makers and tonus givers. Contractility is not their only function. They serve better to transform nerve energy into muscle action at certain points. The tonus just distal to each point of polarization in this type of muscle cell is always increased. Irritability and contractility are greater. Peristaltic waves are more pronounced. A section removed from the duodenum or upper ileum

shortens itself and curls over on the edges more than a section taken farther down. Placed in proper fluid, it will retain its rhythmic contractions much longer.

In the upper intestinal tract it is a wise provision, because there the enzymes are abundant and imperfectly mixed and proper digestion and chemical changes cannot occur. The tonus is poor in the lower part of the intestine in order that there may be delay and sufficient absorption of the chyme before it passes over into the large intestine.

The tonus of the large intestine is produced by the polarization of the terminal ileum. In all animals, particularly in those that eat vegetables, the cecum has a direct ratio to the stomach in importance. It is here, in the colon, that we have instituted absorption of fluids which control dehydration and calcium metabolism. The appendix as well as the cecum is highly provided with nerve net, the pneumogastric ganglions and smooth muscle fibers, controverting in this the prevailing sentiment that the appendix is degenerating.

The sphincter muscle is a law unto itself. The pneumogastric muscle has no effect whatever on it. Irritation of the sympathetic nervous system causes its contraction, and the only thing that will open the sphincter is the passing down of a proper peristaltic wave.

The sympathetic nervous system inhibits the activities of the intestine with the exception of the sphincters. When irritated, out of the chromaffin bodies we have secreted epinephrin, the hormone of the sympathetic nervous system, and all activity of the intestinal tract is quieted. It becomes flaccid, its tone is diminished, and there is distention of its lumen from its gassy content. This may be for a period of rest, or it may develop a pathologic condition when long continued.

The vagus is the motor nerve of the intestine. Biologically and physiologically it is a nerve of wondrous action, connecting up the different vegetative viscera, keeping up a proper activity and tonus. In some of the lower animals it is the activating nerve to the electrical organs, and we can appreciate how the electrical discharges down through this nerve (because all nerve force is electrical) to the ganglions, which are distributed through the entire nerve net, can induce so much tone and action.

There are times when this becomes very evident, in conditions which are known as peristaltic unrest, when the bowels are moving rapidly and continuously. If they contain gas, the noises are audible. Wave follows wave. Then, perhaps suddenly all is quiet. Again, there may be times when the sympathetic nervous system closes the sphincter, the pneumogastric nerve producing a peristaltic condition almost choreic, when for hours or days there will be a tremendous churning of the intestines. Gradually it will quiet down, the sphincter will open, and there will be the usual passage on of content.

There is a wave, appreciated only by delicate instruments, which runs down the entire length of the intestine. The veins of the intestine, as they pass through the fibrous tissue into the mesentery, are provided with valves, as are the lymphatics. Every time the intestine contracts, the blood is forced into the veins and up to the liver. Mall has studied this action very carefully, and considers that the intestine is the heart or circulatory organ of the liver, and the lymphatic system of the intestinal tract. In order that there may be circulation of blood and of lymph when the intestine is apparently quiescent, this wave, which comes down the entire length of the intestinal canal, acts and is a reminder of the primitive heart.

PATHOLOGIC CONDITIONS

In 1705, Hook published a work in which he suggested that it may be possible to discover the motions of the internal parts of the body by the sounds they make. Cannon, it is said, used to retire with his stethoscope on his abdomen, going to sleep listening to the sounds and studying them. Some of our writers state that auscultation of the abdomen is valueless and nothing important is heard or discovered; but I have made it a point for a number of years to auscultate every abdomen that has any enteric process. Generally, little of value is heard; but there are times when conditions are noted which are of immense importance. Conditions of peristaltic unrest are not understood except through auscultation. Simulations of intestinal obstruction can be differentiated only in this way. The atonic state of the intestine, so common in women, will give us sounds that are a clue to the condition existing.

When there seems to be a true ileus, when we have a case of "acute abdomen" in which we suspect obstruction, frequent auscultation is of much value. As soon as we hear a tinkle, then we should feel quite sure that an operation will be demanded, or if on putting the ear just above the pubes, we hear the heart sounds as distinctly as at the epigastrium, there should not be an hour's delay. It is possible that by frequent and studied observation of the sounds of the abdomen more points of importance may be discovered.

The myenteric net, being partly nerve tissue and partly neuromuscular, and being indirectly connected with the nervous system, is completely autonomic. It is a separate nervous system, controlled to a certain extent and kept within bounds of energy action by the sympathetic nervous system on the one side and by the motor nerve, the vagus, on the other. Most of the work the intestine is called on to perform is accomplished through the nerve net. Stimuli coming to it from the intestine, and chemical irritations of the mucous membrane to the terminal filaments of nerve there, may pass up to the submucous plexus and then on to the myenteric net.

The activities of this net are more pronounced and more easily induced when put on a stretch—an inheritance from its ancestors in lower life. If the intestine is exposed to the air, there follows a rapid evaporation of the carbon dioxid from the contained fluids (carbonic acid being the hormone of the nerve net, the same as epinephrin is of the sympathetic, and as cholin, a derivative of lecithin, seems to be of the vagus). Without the carbonic acid in the substance of the intestinal wall, there is inactivity of the nerve net, a paretic condition lasting indefinitely, and an inability to contract against the gases formed in the intestinal lumen, working toward the condition surgically known as ileus.

The intestine is a mesial organ. It is very long, and in its development it takes on convolutions, the large intestine passing over to the right and descending, ordinarily becoming attached to the posterior wall without a mesentery, the cecum being found at the brim of the pelvis. In this region there are perhaps more defects of development than in any other part of the body. Sometimes it is an overgrowth of cecum, allowing it

to drop deeply into the pelvis, with the production of a certain amount of drag and disturbance of the sensitive polarized area at the terminal ileum.

The intestine is held in position by embryonal bands, some passing over to the colon and giving it support, others passing up on the mesentery of the terminal end of the ileum. The cecum is generally free. The stress of the upright position may occasionally convert this normal fibrous tissue into pathologic tissue, later contracting, and in its contraction disturbing the relations of the intestine and apparently interfering with its action.

The roentgenologist in viewing the upper abdomen discovers dilated duodenums, and the surgeon also has noted the frequency of this condition. Both find a correlation between it and that which disturbs the tissues at the ileocecal region, whether bands or ptosis. Every case of ceco-appendicular deformity, so called chronic appendicitis, met in my experience, has been associated with dilated duodenum, disturbed gastric action and gastric flatulence, often associated with a type of cholecystitis, and not infrequently with a spastic condition of the descending colon.

It is curious to look back into the history of this region and see how at one time we regarded these bands and attachments as being primarily pathologic. Only a year or two before the war, Lane was removing the entire colon for what he called not an anatomic but a physiologic perversion: mutilating surgery which seems today quite unnecessary; for certainly very few colectomies now take place, and those who used to exhibit their long tubes now keep them in their darkest closet.

Before attempting to relieve a person of distressing symptoms by operative means which may be mutilating, we should try to gather in our minds with great accuracy the conditions which may be the origin of the trouble, and to know the component parts of the myenteric net and their functions, as well as their pathology.

One forceful thing was recently brought out by Crile, namely, that sturdy exercising in the open, building up the musculature of the body, making it stronger by feeding it more oxygen, had a very evident effect on the intestine. Consequently there must also be some effect on the neuromuscular tissue and the nerve net.

CONCLUSION

A few generations ago the physician occupied the whole field, both medicine and surgery; then gradually the specialties developed. As medicine grew, the result of animal experimentation and growth of other sciences, specialties grew, so that now we have an overgrowth of specialization, with a tendency to build a trench around each. In all these years we have been taught of the microcosm and the interrelation of tissues; yet in our active work we practically forget it. The time has come when we must accede to the overlapping, and in our practice as well as in our writings begin to knit the different specialties together, so that practice and study may not be warped by a biased point of view. The working out of this paper was greatly embarrassed because of the fact that the embryologist paid little attention to histology, and neither he nor the histologist to physiology. Comparative anatomy was seldom referred to, yet a knowledge of them all is necessary for a proper understanding of the architecture and function of the myenteric nerve net.

280 Montgomery Street.

INTRATHORACIC HODGKIN'S DISEASE: ITS ROENTGEN DIAGNOSIS

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The typical case of Hodgkin's disease with its enlargement of external lymph nodes is readily recognized as such clinically. The disease assumes at times, however, clinical types which may deviate from the usual form. Uncertainty of diagnosis may then arise, especially in the cases in which external lymphomas are poorly developed or absent. We have especially in mind the cases of abdominal Hodgkin's disease, or the splenomegalic form, in which the diagnosis may remain in doubt for some time unless external lymph nodes are available for section.

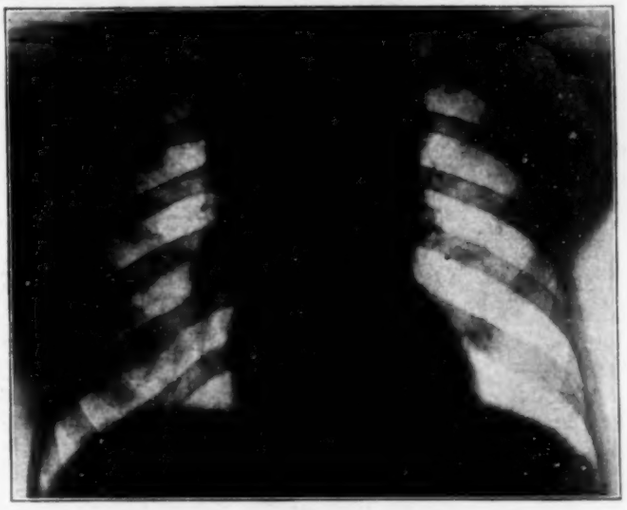

Fig. 1.—Mediastinal tumor type.

In view of the known frequency of involvement of the intrathoracic lymph nodes it is not unnatural to suppose that an examination of the chest might furnish some clarifying data in these doubtful or atypical cases. When we take stock, however, of the means at our disposal for the recognition of intrathoracic Hodgkin's disease, the limitations of the ordinary physical examination become apparent. Usually only the large tumor-like masses in the chest, by their size and location, are calculated to produce symptoms and physical signs, and even these may remain latent. Further, these signs and symptoms may furnish by themselves no clue to the nature of the disease, as they are common to all forms of mediastinal or pulmonary new growth. We have accordingly availed ourselves of the roentgen-ray examination in the study of twenty-five cases of Hodgkin's disease in order to determine the frequency of intrathoracic involvement and especially to ascertain whether the roentgenogram offers anything characteristic which may be of help in the diagnosis of doubtful and atypical cases.

In the first place, changes within the chest in cases of Hodgkin's disease are found with great frequency. Thus in the twenty-five cases reported, distinct evi-

dence of enlargement of the intrathoracic nodes or involvement of other lymphatic tissue was invariably found in the roentgenogram. It should be emphasized at this point that by enlargement of the bronchial nodes is to be understood, not the adenopathy normally and

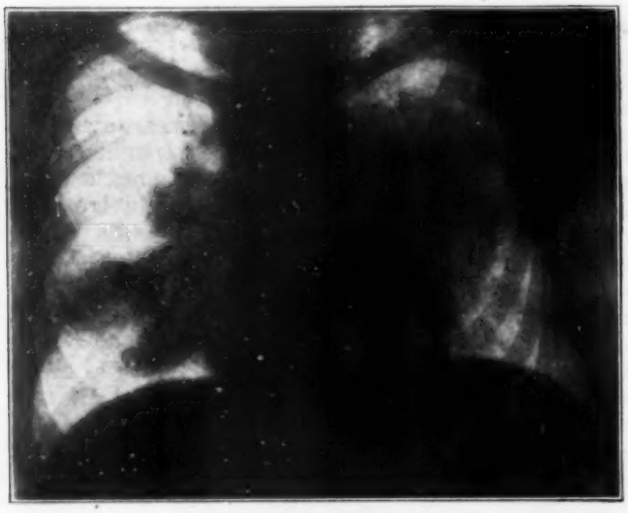

Fig. 2.—Infiltrative type.

regularly found in adults, but rather an alteration in the size, shape and density of the shadows which leaves no doubt as to the existence of disease.

TYPES OF INTRATHORACIC HODGKIN'S DISEASE

The changes which we have noted on the chest plates of cases of Hodgkin's disease may be classified under four types, the significance and frequency of which will be indicated.

1. *Mediastinal Tumor.*—Thoracic Hodgkin's disease may appear on the roentgen plate typically as a mediastinal tumor. Large massive shadows are seen extend-

Fig. 3.—Isolated foci in right and left lungs; large bronchial nodes and paratracheal nodes.

ing outward from the mediastinum into the lungs; they have smooth or lobulated borders and show little or no evidence of the individual component lymph nodes (Fig. 1). Such shadows were present in eight of the cases. By themselves they offer nothing characteristic of Hodgkin's disease and cannot be distinguished from other mediastinal growths, such as lymphosarcoma.

2. *The Infiltrative Type.*—In this form of Hodgkin's disease the lymphomatous tissue appears to invade the neighboring lung very much as a malignant neoplasm (Fig. 2). It is doubtful whether this is a true invasion of the lung; it is not improbable that in this form of the disease there is a diffuse transformation of the intrapulmonary lymphoid tissue into granuloma. However, on the roentgen plate the borders of the apparently infiltrating mass are indistinct and irregular and appear to grow into the lung. This is an infrequent form of the disease, and it occurred in only four cases.

3. *Isolated Nodules or Metastases in the Lung.*—In a small number of cases there are seen in the pulmonary fields, and having no connection with the mediastinum, circular or oval shadows of moderate density. They are usually small, from one to several centimeters in diameter. By themselves, they are not to be distinguished from metastatic new growths in the lungs (Figs. 3 and 4).

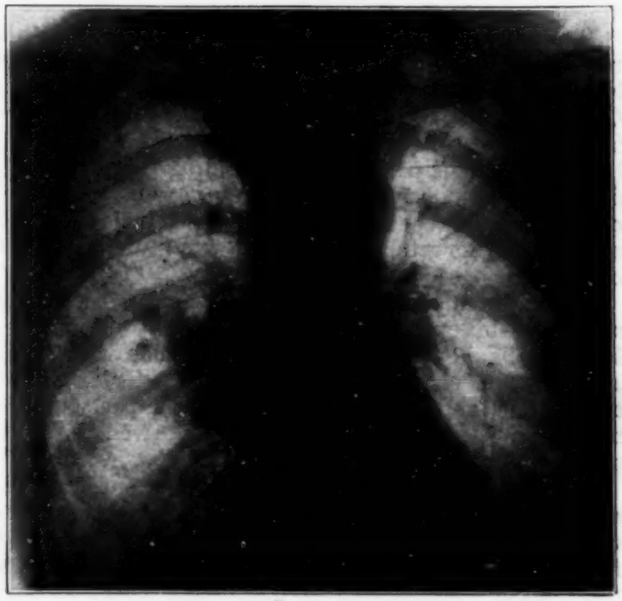

Fig. 4.—Large right bronchial nodes; small isolated deposits in right upper lobe and in left lower lobe; large substernal thyroid.

The invariable presence, however, of lymphomatous masses at the roots of the lungs, next to be described, usually renders possible their recognition as a form of Hodgkin's disease. This type was found in four cases, always in association with one of the other forms of the disease. In accordance with the commonly accepted belief, these shadows do not represent true metastases, but are rather autochthonous foci developing in preexisting pulmonary lymphoid tissue.

4. *Discrete Nodes at the Roots of the Lungs.*—The most common form of Hodgkin's disease of the chest is the analogue of the external glandular enlargement and consists, like it, of masses of more or less discrete nodes at the roots of the lungs. It was present in seventeen cases. On the roentgenogram it provides, in typical cases, some points of distinction from other forms of adenopathy.

The shadows extend often for a considerable distance from the roots of the lungs, and individual nodes or groups of nodes retain their outline. It is characteristic of the shadows that they are faint; and in

this respect they differ from those of new growth and tuberculosis. They are particularly distinguishable from the latter by an absence of caseation and calcification. Tuberculous nodes, when they have achieved the size of those found at the hilum in Hodgkin's disease, are invariably cheesy, and the shadows are irregular and of great density. For this reason, large lobulated shadows at the roots of the lungs which are faint and homogeneous raise a strong presumption of Hodgkin's disease, a presumption which will be strengthened if there are found outlying deposits in the lungs, such as were described under Type 3. The various groups of nodes may be involved, the bronchial, bifurcation or bronchopulmonary (Figs. 4, 5, 6 and 7). Of greatest interest, however, is an involvement of the right paratracheal nodes which occurs so frequently in Hodgkin's disease as to acquire a major importance in the diagnosis. It occurred in no less than fourteen cases, either alone as a solitary manifestation of intrathoracic disease or, as was usually the case, in association with the other forms of the disease previously described (Figs. 3, 5 and 7).

Fig. 5.—Large lymphomatous mass at the root of the right lung; very large paratracheal nodes; case clinically simulated splenic anemia.

ENLARGEMENT OF PARATRACHEAL NODES

Enlargement of the paratracheal nodes is such a relatively rare phenomenon in intrathoracic disease as to warrant a slight digression at this point. Normally there is found on the right side of the trachea, just above the eparterial bronchus, a small group of lymph nodes. Owing to their deep situation, when they become enlarged they cannot be felt by palpation, nor do they produce physical signs. A moderate enlargement of these nodes, however, becomes noticeable on the roentgenogram by the production of a characteristic shadow. It is remarkable that the paratracheal nodes rarely participate in the enlargement of other groups of intrathoracic nodes. In a large number of cases of pulmonary and mediastinal new growths which have come under our observation, the paratracheal nodes were involved only once, and in this case they were only slightly increased in size. In pulmonary tuberculosis in adults in whom the bronchial nodes are usually affected, we can recall perhaps two or three cases of many thousands in which the paratracheal nodes were involved. In infants and children, on the contrary, these nodes are more often affected by the tuberculous process, and they may then achieve a considerable size and give rise to dyspnea and stridor.

In Hodgkin's disease, these nodes appear on the plate as an oval shadow situated always to the right side of the trachea, in the upper mediastinum and below the

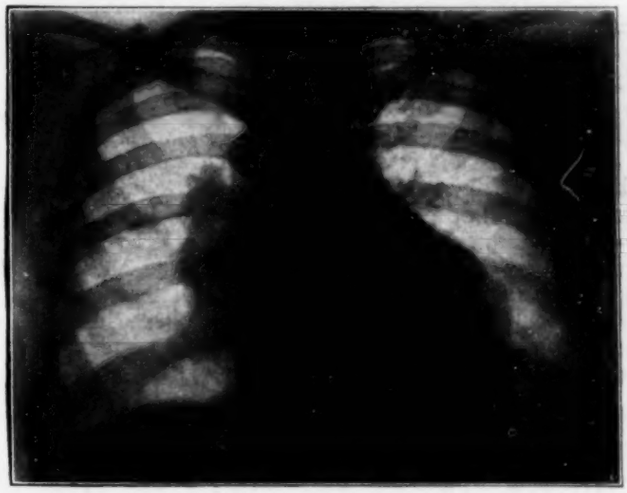

Fig. 6.—Large masses of nodes at both roots, on the left side extending beyond the left border of the heart; small paratracheal nodes.

sternal end of the clavicle. It varies in size from that of an almond to a hen's egg, and it is homogeneous in density.

We believe that the great frequency of involvement of these nodes in Hodgkin's disease, occurring in more than 50 per cent. of our cases, and its great rarity in other diseases with which it may be confused, may be of value in the diagnosis of obscure cases. We have in mind particularly those cases of splenic and abdominal Hodgkin's disease in which external glandular enlargement does not appear prominently in the clinical picture. A case of this type is illustrated in Figure

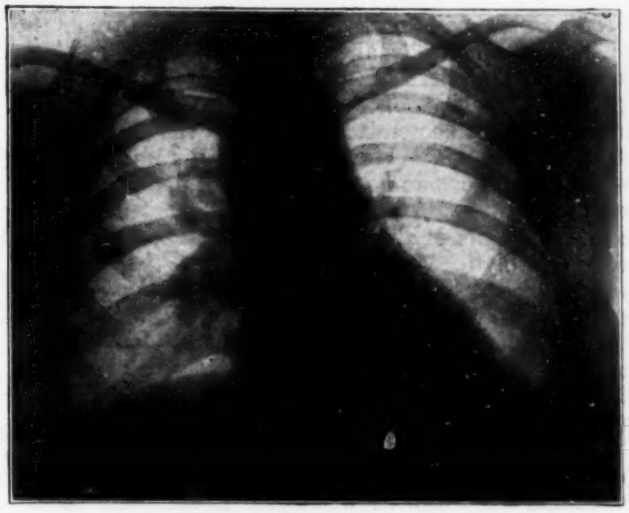

Fig. 7.—Large paratracheal nodes; lymphoma at the right root; small isolated foci in the right upper lobe.

5, in which the enormous spleen overshadowed the few cervical lymph nodes and simulated a splenic anemia.

The paratracheal nodes may be involved relatively early in the disease. On the other hand, they may persist after treatment when practically all other lymph nodes have receded. In a recent case, in which a small

recurrence developed at the angle of the jaw several years after apparent cure by roentgen-ray treatment, the plate showed the paratracheal nodes enlarged to the size of a walnut.

CONCLUSIONS

1. A large percentage of the cases of Hodgkin's disease have demonstrable intrathoracic lymphomas.
2. Although the roentgenogram in some cases presents nothing characteristic, in a considerable number a distinction from other forms of new growth or glandular enlargement can be made.
3. There is a frequent and unique enlargement of the right paratracheal group of nodes which occurs only rarely in other diseases.
4. In doubtful or atypical cases of Hodgkin's disease, the roentgen-ray examination of the chest may help to establish the diagnosis.
5. Roentgen-ray examination of the chest should be performed in all cases, before they are pronounced cured after treatment.

30 West Seventieth Street—1 East One Hundredth Street.

HEMOLYTIC STREPTOCOCCI IN THE NORMAL THROAT AFTER TONSILLECTOMY *

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CHICAGO

The rôle of hemolytic streptococci, especially as secondary invaders in such diseases as influenza, lobar pneumonia and measles, has been constantly emphasized in the reports of civil and military medical observers during the last two years. Hence it is a matter of importance to learn of the distribution of these organisms in normal throats under various conditions.

While most observers believe that the tonsils are often the site of growth of these organisms in normal throats, some maintain that even in normal throats the tonsils are practically always infected with hemolytic streptococci. There have recently been a number of reports of the incidence of hemolytic streptococci in normal nontonsillectomized throats as well as in throats after tonsillectomy. However, the results of many of these observations do not have much comparative value because of the failure of the investigators to include technical details in their reports. In 1906, Ruediger[1] found hemolytic streptococci in about 59 per cent. of normal throats, and Smillie[2] in 1917 reported very nearly the same proportion (50 per cent.). Since 1917 there have been many reports. Fox and Hamburger,[3] and Levy and Alexander[4] found that about 15 per cent. of recruits and about 83 per cent. of men who had been in service for some months were *Streptococcus hemolyticus* carriers, as shown by throat cultures. Surface smears from the tonsils and throats under various conditions have shown hemolytic streptococci to be present in normal throats in varying proportions of cases: Seventy per cent. were found positive by Irons and Marine;[5] 6 per cent. by Cumming, Spruit and Lynch;[6] 28 per cent. by Nichols and Bryan;[7] 22.5 per cent. by Opie and his co-workers;[8] 44.5 per cent. by Blanton, Burhams and Hunter;[9] 47 per cent. by Simmons and Taylor;[10] 58 per cent. by Pilot and Davis;[11] and 57 per cent. by Tongs.[12] Blake[13] reports that in the absence of streptococcus epidemics less than 10 per cent. of normal men in army camps harbor hemolytic streptococci in their throats, but that this proportion is increased by from 300 to 400 per cent. during streptococcus epidemics. It has also been shown that only cultures of the crypts of excised tonsils may reveal the organisms. Nichols and Bryan[7] obtained positive crypt cultures in 75 per cent. of excised tonsils. Pilot and Davis[11] found that while hemolytic streptococci could be detected by surface swabbings of the tonsils in 61 per cent. of their cases, crypt cultures of the same hyperplastic tonsils after excision showed 97 per cent. to be infected by the organism. Similarly Tongs[12] pointed out that surface cultures of unexcised tonsils showed hemolytic streptococci in 60 per cent. of the cases, and that crypt cultures showed the organism in 83 per cent. of the same tonsils. Hence it is probable that in normal tonsils and throats hemolytic streptococci occur in even higher proportions than have been indicated.

The proportion of hemolytic streptococci in normal throats after tonsillectomy has been reported as being 13 per cent. by Nichols and Bryan;[7] 23 per cent. by Simmons and Taylor;[10] 15 per cent. by Pilot and Davis;[11] and 5 per cent. by Tongs.[12] All investigators who have examined throats after tonsillectomy agree that such throats harbor far fewer hemolytic streptococci than nontonsillectomized throats. I wish to report some observations on the incidence of hemolytic streptococci in the throats of tonsillectomized individuals in good health (Table 1).

TECHNIC

All throat cultures were thus made: A sterile cotton swab was gently but thoroughly rubbed against the walls of the tonsillar spaces, over the pharyngopalatine arch and the posterior wall of the pharynx, and at once used to inoculate an enrichment broth. This consisted of from 5 to 6 c.c. of plain broth (made with 15 gm. of Fairchild's sugar-free culture peptone, 5 gm. sodium chlorid, and distilled water sufficient to make 1,000 c.c.), to which had been added from 6 to 8 drops of defibrinated goat's blood. The organisms were cultivated for twenty-four hours in the enrichment broth, after which surface smears were made on 1.7 per cent. agar containing about 10 per cent. of defibrinated goat's blood, and shake cultures were prepared by

* From the John McCormick Institute for Infectious Diseases.

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7. Nichols, H. J., and Bryan, J. H.: The Tonsils as Foci of Infection in Streptococcus Hemolyticus Carriers, J. A. M. A. **71**: 1813 (Nov. 30) 1918.
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10. Simmons, J. S., and Taylor, R. E.: Bacterial Carriers in the Upper Respiratory Tract, J. A. M. A. **72**: 1885 (June 28) 1919.
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13. Blake, F. G.: Relation of Streptococcus Hemolyticus Carriers to Streptococcus Epidemics in the Army, Ann. Otol., Rhinol. & Laryngol. **28**: 361 (June) 1919.

inoculating and plating at 45 C. tubes of blood agar of similar composition. Like Tongs,[12] I found a somewhat larger proportion of hemolytic streptococci by the shake method than by the surface smear method. The plates were cultivated and observed for forty-eight hours. Organisms from hemolytic colonies when present were inoculated into plain broth, made as described, and after twenty-four hours' cultivation were again plated in blood agar by the shake method to observe the purity and hemolytic action of the strain. At the same time the staining

TABLE 1.—EXAMINATION FOR STREPTOCOCCUS HEMOLYTICUS

Case No.*	Age	Occupation	Time Since Removal of Tonsils	Result of Examination
1†	25	Medical student	6 months	+β
2	31	Physician	9 years	+α′
3†	23	Medical student	8 months	+β
4	24	Medical student	3½ years	+α′
5	24	Medical student	2 months	—
6	26	Physician	3 months	—
7	24	Housewife	4 months	+α′
8	26	Medical student	7 months	—
9	24	Medical student	2 months	+α′
10‡	29	Physician	2 years	—
11	25	Medical student	11 years	—
12	27	Physician	6 months	+α′
13†	26	Physician	6 months	+β
14	26	Physician	6 months	+α′
15	25	Medical student	10 months	+α′
16	25	Physician	3 years	—
17	26	Physician	2½ years	+β
18	25	Physician	3½ years	—
19	24	Physician	2½ years	—
20†	23	Medical student	10 months	+α′
21	21	Medical student	1 year	+α′
22	23	Medical student	2 years	—
23	23	Medical student	—	—
24	24	Physician	7 months	—
25	33	Physician	5 years	+α′
26	22	Clerk	—	+β
27	24	Medical student	2 years	—
28	20	Formerly a sailor	1 year	—
29	31	—	2 years	—
30†	24	Medical student	9 days	—
31	22	Medical student	6 months	—
32	24	Medical student	7 months	—
33	25	Medical student	8 months	+β
34	11	School-girl	2 months	—
35	12	School-girl	2 months	—
36	26	Physician	4 years	+α′
37†	12	School-boy	2 weeks	+β
38	7	School-girl	3 months	+β
39†	24	Medical student	7 months	+α′
40	24	Medical student	2½ years	+α′
41§	22	—	5 years	+α′
42	28	Medical student	2 years	—
43	23	Medical student	1⅛ years	+α′
44	27	Physician	2 years	—
45	27	Physician	6 months	—
46	16	Student	7 years	—
47	22	Medical student	9 years	—
48§	23	Medical student†	12 years	—
49†	22	Student	8 years	—
50	21	Student	10 years	—
51	20	Student	4¼ years	—
52	22	Student	3 years	—
53	24	Student	15 years	+α′
54	21	Student	5 years	—
55	19	Student	7 years	+β

*Cases 7, 34, 35, 38 and 55 were female, all others were male. The general condition of all was good.

** In this column +β indicates presence of streptococcus hemolyticus β; +α′ presence of S. hemolyticus α′ and — negative results.

† Throat somewhat inflamed.

‡ Lingual tonsil present.

§ Some regeneration from tonsillar remnants.

reactions and morphology of the broth cultures were studied. From the same broth cultures, blood agar slants of 1.7 per cent. agar containing about 5 per cent. of defibrinated goat's blood were inoculated and kept at a temperature of 37 C. for twenty-four hours, after which they were sealed with paraffin and corks and placed in an ice-box for later use in fermentation tests.

The hemolytic streptococci found were gram-positive organisms which in broth formed chains of from five to sixty cocci, each strain forming chains of approximately the same length. Definite differences in the size of the individual cocci were common. On blood agar were noticed chiefly two types of colonies: one markedly hemolytic, the individual colonies being surrounded after twenty-four hours by a hemolytic zone from 2 to 4 mm. wide, and another considerably less hemolytic, its surrounding hemolytic zone being less clear and usually only about 1 mm. wide. Microscopic examination of these colonies under low power revealed the fact that, while all of the corpuscles in the hemolytic zone of the first type of colonies were completely hemolyzed, hemolysis was not quite complete in the hemolytic zone of colonies of the second type, and at the same time the corpuscles which were not hemolyzed were little discolored. The first type of colony resembled that described by Brown[14] as the colony of the Beta (β) type of hemolytic streptococcus, the second resembled Brown's[14] Alpha prime (α′) type of hemolytic streptococcus. The organisms are so designated. After cultivation in the enrichment medium almost always there was a great preponderance of either the Alpha prime or the Beta type of organism when either was present.

FERMENTATION TESTS

In the performance of the fermentation tests, one loopful of a twenty-four hour broth culture of hemolytic streptococci from preserved blood agar slants was transferred to from 1 to 2 c.c. of the carbohydrate broth (plain broth as described, to which was added, each to the amount of 1 per cent., 5 per cent. litmus solution and carbohydrate). No raffinose was available. Observations were made over a period of eight days, although the fermentation reaction was practically always plain after three days. Twenty-one strains were tested by the fermentation reactions, and the results are illustrated in Table 2.

TABLE 2.—RESULTS OF FERMENTATION REACTIONS

Number of Strains	Glucose	Lactose	Maltose	Mannite	Plain	Saccharose	Salicin	Inulin
8	+	+	+	—	—	+	—	—
13	+	+	+	—	—	+	+	—

COMMENT AND CONCLUSIONS

In the series of tonsillectomized throats of individuals in good health it was found that in nine, or 16.4 per cent., there were markedly hemolytic streptococci. In sixteen, or 29 per cent., of the throats were the less markedly hemolytic streptococci resembling Brown's[14] Alpha prime type. Thirty, or about 55 per cent., of the throats examined revealed no hemolytic streptococci. There seemed to be no significance in the time elapsing between the removal of the tonsils and the bacteriologic examination of the throat for hemolytic streptococci. In several of the cases the Beta type of hemolytic streptococci was present in the absence of clinically visible changes in the throats. The fermentation reactions of these streptococci were typical of hemolytic streptococci. According to the classification of hemolytic streptococci by fermentation reactions as suggested by Holman,[15] the organisms tested would be divided into two groups, *Streptococcus anginosus* (fermenting lactose but not mannite and salicin) and *Streptococcus pyogenes* (fermenting lactose and salicin but not mannite).

The method employed in this work differs from that of most investigators in that a routine preliminary cultivation of the throat cultures in blood broth was made. While some reports mention streptococci whose

14. Brown, J. H.: The Use of Blood Agar for the Study of Streptococci, Monograph 9, Rockefeller Institute for Medical Research, 1919.

15. Holman, W. L.: Classification of Streptococci, J. Med. Res. 34: 377, 1916.

hemolytic action is incomplete (Alpha prime type), none give very definite data on the proportion of such organisms. The Beta type of hemolytic streptococcus is probably the type referred to by most authors as hemolytic. Hence my findings, namely, that 16.4 per cent. of the tonsillectomized throats harbored markedly hemolytic streptococci, while higher than those of Tongs[12] and lower than those of Simmons and Taylor,[10] agree quite closely with the observations of Nichols and Bryan,[7] and Pilot and Davis.[11]

THE REHABILITATION OF A MEDICAL RESERVE FOR THE ARMY*

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The United States Army is now facing what may appropriately be characterized as a period of critical transition. Demobilization of the vast war machine built up during the past two years has been more or less successfully accomplished.

The permanent personnel of the regular establishment would welcome a speedy return to a peace time basis and the development of a military organization capable of functioning efficiently. In one of the hearings before Congress, not long ago, some one tritely remarked that nearly every permanent officer these days is carrying about in his pocket an army reorganization bill — the figment of his own fertile imagination. It is to be hoped and confidently can be predicted that the Congress, by avoiding the "extremists," will hit on a happy medium and enact a law that will permit the army to develop along the lines which the experience gained in the world war has demonstrated will best meet the needs of our national ideals. What is most earnestly to be hoped for is a law which will provide the framework of a real military policy—that will-o'-the-wisp which has always eluded us. Even an imperfect plan is better than none at all. Nations, like individuals, require a goal at which to aim. As a nation we have for a moment had a vision which has fired us to supreme effort. Are we going to lapse back into the old habit of drifting with the current, or are we going to remember the thousands of young men we have left behind in France and turn our thoughts to a constructive program which, if it does not keep us out of wars in the future, will at least prevent the needless sacrifice inseparable from our chronic state of unpreparedness?

Diligent efforts are being made by our national legislators to get at the meat of the nut and formulate a basic military law embodying as many as possible of the good features developed by our experience in the world war, and eliminating, or at least trying to eliminate, such defects as have been demonstrated.

"In time of peace prepare for war" still holds good. We fervently hope that the present generation has seen the last of war on a big scale. Nevertheless, we are not prepared to admit that the millenium has arrived or that an army's usefulness, in spite of its *raison d'être,* terminates with a war, although a study of our military history would indicate that that belief is very generally held. An individual applying the same reasoning would discontinue all life insurance on recovery from a dangerous illness on the theory that all risk of death had passed. From out the welter of the past few years the one fact which must have been impressed on the mind of every American is the utter folly of ignoring the basic principles of national preparedness and national defense, and calmly awaiting a declaration of war before attempting even to assemble, train, equip and properly classify and distribute the enormous number of men called to the colors. Such a policy pursued long enough will certainly result in our undoing. We cannot always hope to find some other nation willing to step into the breach and hold off the foe for years while we fumble and grope, legislate and investigate, waste human lives because we have no clothing or blankets, and spend billions of dollars without visible result in a belated and frenzied rush to prepare. Constructive legislation is rendered increasingly difficult after each war. War loans place a heavy burden of taxation on the citizen, and therefore public expenditures must be curtailed. For many years before the late war, army appropriations were rather less than 10 per cent. of the interest now being paid on our war debt. Tax payers grumble but accept the situation philosophically, never pausing to analyze the matter sufficiently to see that a more generous and broad-minded treatment of the question of national defense in the past would in all probability have obviated the necessity of raising billions on billions of money to prosecute the war just ended.

Today all branches of the military service are confronted with important and pressing problems, on the wise solution of which our national safety in the future may rest. It is proposed in this paper to present two of these problems which, while of moment to the whole military establishment, are vital to the Medical Department.

FIRST PROBLEM: ESTABLISHMENT OF ADEQUATE REGULAR MEDICAL CORPS

The Regular Medical Corps must be recruited up to its full authorized strength. More than 700 vacancies now exist. Under present conditions of pay and promotion, an Army commission seems destined to go begging. Compared with the rewards now enjoyed by his brother practitioner in civil life, the career of his military prototype is one of relative renunciation. It is freely granted that service conditions must be made much more attractive for the embryo military officer. As a result of legislation probably to be enacted during the present session of Congress, in the matter of increase in pay and allowances and speedier promotion (Captain after three years' service), it is believed that we may soon be able to hold out to prospective candidates sufficient inducement for them to join the regular corps. An additional incentive, the details for the practical application of which are now being studied and developed in the Surgeon-General's Office, and which was recently commented on editorially in THE JOURNAL,[1] will be a provision whereby properly qualified men in Class A medical schools, on

* Note, Jan. 16, 1920.—Time mellows all things. Since completion of this article, sentiment among the Medical Reserve seems to have undergone a very decided change for the better, if the number of applications for commission now pouring into the War Department can be accepted as a criterion. At this date a total of 8,000 Medical Reserve officers have already been enrolled, and in addition there are about 4,000 applications on hand awaiting action.—The Authors.

1. Securing Officers for the Army Medical Corps, editorial, J. A. M. A. **73**: 1845 (Dec. 13) 1919.

the termination of their fourth year of study, can be offered internships, carrying pay, in our larger military hospitals—this with a view to affording them opportunity, while finishing their hospital year, of gaining an insight into the different phases of military life and thus making the appointment a stepping stone to a commission in the regular corps. Furthermore, the day may not be as remote as one might at first think when we shall have to resort to some form of governmental subsidy for the education of such medical students as may elect military careers on the termination of their classical courses, and decide to qualify as medical officers of the army under the financial assistance provided for them by the government. With the Medical Corps of the permanent establishment up to its full authorized quota, our peace time obligations can be met.

SECOND PROBLEM: ESTABLISHMENT OF AN ADEQUATE MEDICAL RESERVE

The second and more important problem has been made the title of this paper. The number of names on the present roster of the Medical Reserve Corps is far from satisfactory. From our experience in the recent war, it is obvious that it must be built up in time of peace to a point far beyond that ever achieved by us in the past.

What are the prospects? Under present conditions we are constrained to confess that they are not very bright. Let us briefly review some of the causes which lead us to entertain such a pessimistic conclusion.

During the war there were enrolled in the army approximately 30,000 medical officers from civil life. Prior to his discharge, each officer was requested to signify his desire with regard to accepting a commission in the Medical Section of the Officers' Reserve Corps on the inactive list. Excluding some 1,500 officers still in temporary service, the latest figures at hand reveal that only 5,000 medical officers from civil life who saw active service during war at home or abroad have so far elected further affiliation with our army reserve. Of this number, when appointments were eventually sent out, about one third declined and returned the commissions offered them. To be exact—to date (Dec. 1, 1919) 3,787 acceptances and 1,261 declinations have been received.[2]

In one representative list of declinations taken at random from the files of the Surgeon-General's Office and containing 327 names, the commissions sent out but declined were: two in the grade of lieutenant-colonel, fifty-five major, 181 captain, and eighty-nine first lieutenant. (In this connection it is of interest to note that approximately one sixth of these commissions offered but declined were in field grades.) From the foregoing, it will be seen that thousands of experienced medical officers have been discharged and returned to their practices in civil life, leaving behind them in the minds of their former military associates no question of doubt as to the keenness of their desire for an absolute divorce from the military service. Many have left us with nothing but an expression of the bitterness in their hearts. Dissatisfaction over their lot while serving with the colors is common.

In justice to them it should be said that while combat activities were on, they served bravely and patiently even while smarting under what appeared to be injustice and lack of appreciation. With their duty to the country fulfilled in fullest measure of devotion, a wave of revulsion swept over many of those about to be discharged. Immediately following the armistice, universal discontent and dissatisfaction became rampant among the reservists. Some spared no pains to voice their indignation and disgust at the lot which fell to them during the war and the situation in which they found themselves when the armistice anticlimax overwhelmed them. Disappointed, their sole aim was to get out of the army as quickly as possible and forget it.

In the matter of securing initial commission and subsequent promotion, "political influence," "wire pulling" and "peanut politics" were openly charged. As one man put it, "Why shouldn't a man become disgusted when he was made to realize that 'pull and bull' won out over patriotism and efficiency in the matter of securing commissions and promotion."

While in some respects the foregoing typical statements are somewhat far fetched, the basic causes of the discontent now pervading the ranks of our ex-reservists are clearly understood and deeply deplored by those in the regular service. There is a psychologic and pecuniary foundation that requires no further discussion here. The fact remains that a commission in the Medical Section of the Officers' Reserve Corps at this time seems to be unattractive to the majority of physicians in civil practice.

Even among those who do not harbor any ill feeling over their treatment in the army during the war—and they, we feel confident, constitute the majority—a statement frequently heard is that commissioned status on the reserve list as now provided for carries with it no special prestige or advantage, but on the contrary, certain restrictions or obligations that the average medical man in civil life prefers not to assume. Furthermore, he will tell you it was amply demonstrated in the recent war that when the country needed medical officers they promptly responded, no matter what the personal sacrifice may have been, and that they all continue to remain sufficiently loyal and patriotic to respond in the future to any call of the nation for aid in time of actual hostilities. At any rate, he is "fed up" on the army and turns a deaf ear toward any proposition which would necessitate any further interest in it.

Many of them cite or dwell at length on the fact that the older officers—in point of service—of the Reserve Corps who joined the colors at the beginning of the war found themselves after several years of faithful and efficient service returning to their homes junior in rank to medical officers who had not joined the reserve in time of peace and did not do so until the war was well along. In fact, the recriminations now being directed at this phase of the civilian medical practitioners' military service have a very considerable basis in fact and constitute the crux of the whole question. How this situation arose will not be discussed here. It is well, perhaps, to point out that the administrative difficulties of hastily expanding a corps of about 400 officers to one of 30,000 under the confusion of rapid preparation for war are very great.

When it is borne in mind that the public is apathetic in time of peace toward any measure of military preparation, and that it had been impossible to secure legislation outlining a military policy to meet such an emergency, it it not surprising that mistakes and injustices occurred. They always have occurred and they always will occur until such time as a definite plan for the mobilization of the nation can be worked out

2. See Footnote, p. 450.

and put into effect before the emergency is on us. It is illuminating and extremely significant to observe that the reserve officer places this item of relative rank high up among the desiderata meriting consideration, and accords to it practically as much importance as does the regular army man. This is a psychologic factor which must be given due weight in attempting to devise a corrective for the condition now existing.

For purpose of illustration let us assume that in time of emergency two practitioners in the same community volunteer their services. Both receive commissions as first lieutenants and both perform equally meritorious service. When their services are no longer required, both return to their homes to resume practice; one, however, is now a lieutenant-colonel, while the other is still a first lieutenant. If it happens that the latter is the older and had become a member of the Reserve Corps before the war, attended camps of instruction, etc., his feelings can be better imagined than described. Obviously there must be something radically wrong with any system which can permit such injustice to occur.

A just promotion policy had not been formulated in time of peace. Moreover, such a policy could not have been worked out for the reason that we had no basic military policy on which our war effort was to be built. Such a policy can be elaborated and enacted into law only by the government, and this each succeeding administration has failed to do. It is one of the saddest commentaries on this lack of a policy providing for preparation in time of peace that so many of those splendid medical men serving at the front with combat troops during the war receive little or no recognition in the way of promotion for hard and dangerous duty well done. Many of them rendered brilliant service throughout all the battles participated in by the American Expeditionary Forces and found themselves still in their original grades when the war ended. Others, firm in the belief of the holiness of the cause, made the great sacrifice. Undying glory and honor have been brought to the medical profession. While it was a great privilege to have been permitted to serve, we shall have failed in our simple duty if we do not attempt to profit by the lessons of the war.

Not once but hundreds of time have we been told by medical officers that this subject of relative rank in the home community carries great weight with them.

It is a safe assumption that the Medical Officers' Reserve Corps as now constituted and conducted does not offer any alluring inducements to the thousands of experienced men who are returning to civil life with valuable military experience. We can ill afford to lose their sympathetic cooperation, their interest, and the knowledge they acquired in following the devious ups and downs of a military career during the past two years. And in this connection it cannot be too strongly emphasized that the Medical Corps of the Army can achieve progress in the cause of medical preparedness only as it works in cooperation with the civil medical profession of the country. The war has shown us that the problems of the former are likewise the problems of the latter. The time has passed when any country can hire men to fight its battles, and other men to salvage the human wastage of war. It is well that both the medical officer of the army and his civilian brother should meditate on this aspect of the nation in arms.

If we adhere to generalities and assume that inequality of promotion and consequent disturbance in relative rank had more than anything else to do with bringing about the existing disaffection, where lies the remedy? How can the Reserve Corps be made an instrument for preparing the civil practitioner to assume his military obligations with efficiency and justice to himself? Radical changes are necessary. As to that, the civil medical profession and the medical officer of the army are well aware. It remains, therefore, to determine on a remedy.

PROPOSED REORGANIZATION OF THE RESERVE

The Medical Corps of the Army sponsored the inauguration of the Reserve Corps idea in this country at the time when General Robert Maitland O'Reilly was Surgeon-General of the Army. Its pioneer work in having the bill of 1908 enacted was later emulated by other branches of the military and naval services. Existing legislation governing the Reserve Corps, while sound in principle, is far from satisfactory and needs amendment in a constructive fashion. Therefore, if we are again to have a happy, contented, well-balanced and proficient reserve, cooperating and working in close harmony with its parent organization, the Medical Corps of the Army must again step out and propose the establishment of a reserve system which will embody the results of experience under the original reserve act prior to and during the war, retaining its good features and eliminating its defects. Among the latter we are disposed to accord lack of provision for promotion first place.

Our proposition calls for the assistance and cooperation of the general staff at the War Department, since many of the features desired could be put into effect by that body without further recourse to Congress; but where the latter course is necessary, the enactment of such simple legislation as will permit us to arrange the list of Reserve Corps officers just as is done with officers of the Regular Corps. How can this be accomplished?

FIRST STEP: A LINEAL ROSTER FOR RESERVE OFFICERS

Place all medical reserve officers on one lineal list and thereby establish (among themselves) relative rank, just as is done in the case of officers in the regular establishment. All officers are to be commissioned in grades from colonel down to and including first lieutenant and arranged on the list in order of their rank and subsequently promoted according to seniority. The proportion between the various grades should be the same as now authorized for the Regular Medical Corps. (Present legal allowances in Medical Corps are: colonels, 3.16 per cent.; lieutenant-colonels, 5.42 per cent.; majors, 23.7 per cent.; captains and lieutenants, 67.72 per cent.)

After readjustment in rank of those now in the reserve, and of such former members of the reserve as may rejoin under this new scheme has been made as described below, all original appointments to the reserve, in peace or war, and irrespective of the age or professional standing of the applicant, shall be made only in the junior grade—that of first lieutenant—the new appointee to take his place on the lineal list at the foot of that grade. This provision would place a premium on early enrolment in the reserve and a penalty on temporizing or great delay. Once commissioned in the reserve, a young medical man's relative position on the list is established and he will always have precedence on the *peace time list* over

those subsequently joining. Let the recruit begin at the bottom while he is young, preferably just out of medical school.

However, some exceptions to this rule would have to be provided for. Any officer of the Regular Medical Corps or of the National Guard who resigns his commission or is discharged under honorable conditions should be admitted to the reserve list in the grade and with the corresponding lineal rank he held in those forces when discharged. Such increments should be carried as extra files until they can be absorbed in the annual readjustment.

In this connection it should be remembered that a medical man cannot hold two commissions. If he is a member of the reserve he must resign in order to accept a commission in the National Guard. By doing so he will create a vacancy in the reserve, to be filled by the promotion of those below him on the lineal list. If he subsequently resigns from the National Guard and desires to resume a reserve status, he should be recommissioned in the reserve in the grade and take his place on the list in the same position he would have occupied had he not left it.

HOW TO INAUGURATE THE ROSTER

1. At any time within one year after the passage of the proposed act, admit to this newly created Medical Section of the Officers' Reserve Corps, on their own application and in the highest grade occupied by them, all medical officers who served during the world war and are eligible for reserve commissions.

2. Equitably distribute the number of various grades as legally authorized, computed on the total number of officers enrolled in the Reserve Corps.

3. Redistribute grades for purposes of promotion annually, based on the total strength of the reserve at the end of each calendar year.

In the initial adjustment, it shall be provided, however, that the minimum number of field grades authorized shall not fall below the reserve on a million men, i. e., 7,000 medical officers. This proviso would permit us to start off with a reserve list of at least 221 colonels, 379 lieutenant-colonels, 1,659 majors, and the balance in captains and lieutenants. For a reserve enro'ment of 14,000 medical officers, our allowance would be 442 colonels, 758 lieutentant-co'onels, and so on.

With the foregoing minimum allowance in field grades, every reservist could be assured of receiving a commission in the highest grade held by him during the war; and on recommendation of the Surgeon-General, many of those not suitably rewarded by promotion during the war could now be promoted. In fact, it would assure nearly every junior officer an extra grade. As additions to the reserve were made and the list grew, there would, of course, occur a corresponding increase in the higher grades, thus creating an opportunity for further promotion.

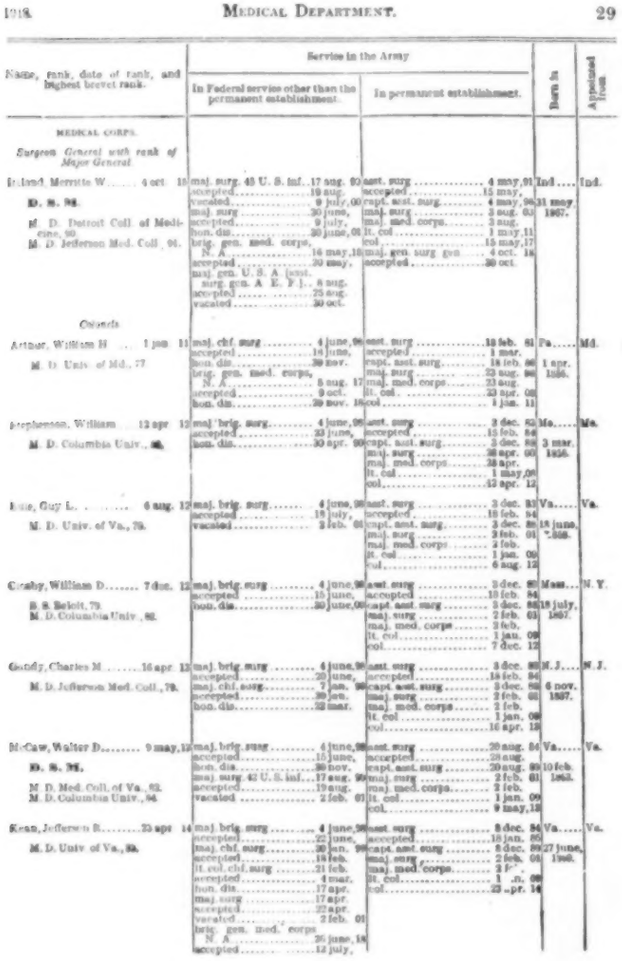
In the annual redistribution, should there be found in any year an excess of officers in the field grades, no demotions would be made, but further promotions to those grades would be suspended until the extra files had been absorbed either by eliminations in the grades showing the surplus or by additions at the bottom of the list, or by a combination of the two. In accomplishing the initial adjustment, the relative rank in each grade should be arranged, by recommission if necessary, and preferably in the order of age of the individual, with the result that older men would be placed above the younger in each grade. While this is not essential, it is highly desirable and is a good principle to follow for the reason that it would stimulate a constant flow of promotion for those officers below them on the various lists; whereas with younger men at the top, considerable blocking of promotion will result. In other words, a young man remains on the list longer than an older man, with the result that the latter passes off it without enjoying a vacancy in the grade occupied by the former. It is believed that this primary readjustment could be equitably and fairly brought about in a methodical manner to the satisfaction of all concerned. Of course, some compromise would be necessary. Only one man could be No. 1 in each grade. Some man would have to be content with remaining for the time being No. 221 on the list of colonels, and another one No. 379 on the list of lieutenant-colonels and so on down—to use an army phrase—to the "goat" lieutenant, the last man who joined the reserve.

SECOND STEP: SUBSEQUENT OPERATION OF THE ROSTER

Now let us assume that what we might term the war-time or readjustment phase in the evolution of the new Reserve Corps has been accomplished as described above. Under the proposed scheme there may have been enrolled, let us say, 20,000 of our ex-war reservists. But to take a concrete example, assume only that the 7,000 officers noted above constitute the Medical Reserve Corps when the list is first established and printed. In other words, we would have 221 colonels, 379 lieutenant-colonels, 1,659 majors, and 4,741 captains and lieutenants (any increase above the 7,000 taken as an example would result in a proportionate increase in the various grades just given). After the lapse of one year, no further initial appointments in the higher grades would be made. From that time on, all appointments would be made in the lowest grade, or that of first lieutenant, and the applicant so appointed would, according to the date of his commission, take rank on the lineal list at the foot of first lieutenants. Promotion thereafter would be made just as in the regular corps, by seniority as vacancies occur. These vacancies in the various grades would be created, for example, by death, by discharge for cause, by resignation, or when the reservist reaches the age of 64 years. This is the retiring age for regular officers, and is favored over the 59 maximum now prescribed for reserve officers. The period of one year suggested above is not arbitrary, but it is evident that a time limit must be fixed before the expiration of which all ex-medical officers must have decided whether or not they wish to hold a commission in the Reserve Corps. This period would be the time required for bringing before the medical profession of the country the approved plan for the reorganization of the Reserve Corps.

Removal of a colonel from the list through the operation of any of the reasons given above would immediately result in the promotion of the senior lieutenant-colonel, the senior major, and the senior captain. Promotion to captain would be made after three years' service, and would not depend on vacancies. One point that we particularly desire to make clear here is that through the operation of such a list as proposed by us an officer on the reserve list is in line for promotion, and would be promoted as vacancies occur, irrespective of the fact that perhaps he had never served

a single day on active duty. Under this scheme, every man takes his place on the list and is considered eligible for promotion exactly as is every other officer on that list. No limitations should be placed on eligibility for service in grades. Appointed as first lieutenant, we see no reason why an officer should not after the lapse of twenty or more years, provided he has made a faithful effort to keep up with the progress of medico-military science, be fully capable of performing the duties of a colonel, in which grade he would probably find himself at that time if this plan is accepted. The point that we particularly desire to make clear is that under this



1918. MEDICAL DEPARTMENT. 29

Name, rank, date of rank, and highest brevet rank.	Service in the Army		Born in	Appointed from
	In Federal service other than the permanent establishment.	In permanent establishment.		
MEDICAL CORPS.				
Surgeon General with rank of Major General				
Ireland, Merritte W. ..... 4 oct. 18	maj. surg. 43 U. S. inf. 17 aug. 03	asst. surg. ..... 4 may, 91	Ind.	Ind.
D. S. 98.	accepted ..... 19 aug.	accepted ..... 15 may,		
M. D. Detroit Coll. of Medicine, 93.	vacated ..... 9 july, 00	capt. asst. surg. ..... 4 may, 96	31 may 1867.	
M. D. Jefferson Med. Coll., 94.	maj. surg. ..... 30 june,	maj. surg. ..... 3 aug. 03		
	accepted ..... 9 july,	maj. med. corps. ..... 3 aug.		
	hon. dis. ..... 30 june, 01	lt. col. ..... 1 may, 11		
	brig. gen. med. corps, N. A. ..... 16 may, 16	col. ..... 15 may, 17		
	accepted ..... 20 may.	maj. gen. surg gen ..... 4 oct. 18		
	maj. gen. U. S. A. (asst. surg. gen. A. E. F.). 8 aug.	accepted ..... 30 oct.		
	accepted ..... 25 aug.			
	vacated ..... 30 oct.			
Colonels				
Arthur, William H. ..... 1 jun. 11	maj. chf. surg ..... 4 june, 98	asst. surg ..... 18 feb. 61	Pa.	Md.
M. D. Univ. of Md., 77.	accepted ..... 16 june,	accepted ..... 1 mar.		
	hon. dis. ..... 30 nov.	capt. asst. surg. ..... 18 feb. 66	1 apr. 1856.	
	brig. gen. med. corps, N. A. ..... 5 aug. 17	maj. surg. ..... 23 aug. 98		
	accepted ..... 9 oct.	maj. med. corps. ..... 23 aug.		
	hon. dis. ..... 30 nov. 18	lt. col. ..... 23 apr. 08		
		col. ..... 1 jan. 11		
Stephenson, William ..... 12 apr. 12	maj. brig. surg. ..... 4 june, 98	asst. surg ..... 2 dec. 82	Md.	Md.
M. D. Columbia Univ., 86.	accepted ..... 23 june,	accepted ..... 15 feb. 84		
	hon. dis. ..... 30 apr. 99	capt. asst. surg. ..... 3 dec. 88	3 mar. 1856.	
		maj. surg. ..... 28 apr. 00		
		maj. med. corps. ..... 28 apr.		
		lt. col. ..... 1 may, 06		
		col. ..... 12 apr. 12		
Ellis, Guy L. ..... 6 aug. 12	maj. brig. surg. ..... 4 june, 98	asst. surg ..... 3 oct. 93	Va.	Va.
M. D. Univ. of Va., 79.	accepted ..... 18 july,	accepted ..... 15 feb. 94		
	vacated ..... 3 feb. 01	capt. asst. surg. ..... 3 dec. 98	18 june, 1858.	
		maj. surg. ..... 3 feb. 01		
		maj. med. corps ..... 4 feb.		
		lt. col. ..... 1 jan. 09		
		col. ..... 6 aug. 12		
Crosby, William D. ..... 7 dec. 12	maj. brig. surg ..... 4 june, 98	asst. surg ..... 3 dec. 88	Mass.	N. Y.
B. S. Beloit, 79.	accepted ..... 15 june,	accepted ..... 15 feb. 94		
M. D. Columbia Univ., 82.	hon. dis. ..... 30 june, 00	capt. asst. surg ..... 3 dec. 98	18 july, 1857.	
		maj. surg ..... 3 feb. 01		
		maj. med. corps ..... 3 feb.		
		lt. col. ..... 1 jan. 09		
		col. ..... 7 dec. 12		
Goodfy, Charles M. ..... 16 apr. 12	maj. brig. surg ..... 4 june, 98	asst. surg ..... 3 dec. 88	N. J.	N. J.
M. D. Jefferson Med. Coll., 79.	accepted ..... 20 june,	accepted ..... 15 feb. 94		
	maj. chf. surg. ..... 7 jan. 99	capt. asst. surg. ..... 3 dec. 98	6 nov. 1857.	
	accepted ..... 20 jan.	maj. surg. ..... 3 feb. 01		
	hon. dis. ..... 22 mar.	maj. med. corps ..... 2 feb.		
		lt. col. ..... 1 jan. 09		
		col. ..... 16 apr. 12		
McCaw, Walter D. ..... 9 may, 12	maj. brig. surg ..... 4 june, 98	asst. surg ..... 20 aug. 84	Va.	Va.
D. S. 98.	accepted ..... 15 june,	accepted ..... 20 aug.		
M. D. Med. Coll. of Va., 83.	hon. dis. ..... 30 nov.	capt. asst. surg ..... 20 aug. 98	10 feb. 1863.	
M. D. Columbia Univ., 86.	maj. surg. 42 U. S. inf. 17 aug. 99	maj. surg ..... 2 feb. 01		
	accepted ..... 19 aug.	maj. med. corps. ..... 2 feb.		
	vacated ..... 2 feb. 01	lt. col. ..... 1 jan. 09		
		col. ..... 9 may, 12		
Kean, Jefferson R. ..... 23 apr. 14	maj. brig. surg ..... 4 june, 98	asst. surg ..... 8 dec. 84	Va.	Va.
M. D. Univ. of Va., 89.	accepted ..... 22 june,	accepted ..... 15 jan. 89		
	maj. chf. surg. ..... 20 jan. 99	capt. asst. surg ..... 8 dec. 89	27 june, 1868.	
	accepted ..... 18 feb.	maj. surg ..... 2 feb. 01		
	lt. col. chf. surg ..... 21 feb.	maj. med. corps ..... 2 F.		
	accepted ..... 4 mar.	lt. col. ..... n. 09		
	hon. dis. ..... 17 apr.	col. ..... 23 apr. 14		
	maj. surg ..... 17 apr.			
	accepted ..... 22 apr.			
	vacated ..... 2 feb. 01			
	brig. gen. med. corps N. A. ..... 26 june, 18			
	accepted ..... 12 july,			

A page (reduced) from the official Army Register, 1918.

scheme a reservist may never see any active service—except such attendance at camps of instruction as he may elect—yet a steady flow of promotion is assured.

THIRD STEP: PUBLICATION OF A SEPARATE MEDICAL RESERVE SECTION OF THE OFFICIAL ARMY REGISTER

The War Department now publishes annually a compilation known as the Official Army Register. This contains the names, records, etc., of all officers of the regular army. During the war its publication was suspended, the last prewar register being issued in December, 1915. The publication of this register was resumed for the year 1918.

For those readers who have never seen an issue of this document, we might add that it is a paper covered book 9 by 6 inches and for the 1918 issue, containing the records of 10,596 officers, is 1½ inches thick. For desk and ready reference purposes, this is a handy and convenient size.

With the Medical Reserve Corps organized and conducted on a lineal list basis as proposed above, the publication annually of a separate Medical Reserve section of this official Army Register is essential. In other words, we would have issued annually the present official Army Register, one volume of which would contain the names and records of "Officers of the Regular Establishment," and one or more volumes to contain the names of officers of the Medical Reserve (no volume should exceed 10,000 names). While true that the medical officers in the National Guard are prohibited from holding a commission in the Medical Section of the Officers' Reserve Corps, they nevertheless form part of our national reserve. There would be no objection to the publication of a separate register for these officers; but as their strength, based on past records, would probably never exceed an aggregate of 1,000 medical officers (the maximum number in 1916 was only 800 officers) there is no reason why their names, rank, National Guard assignments, military record, etc., should not be incorporated in the volume, immediately following the names of officers of the medical section, Officers' Reserve Corps. In this event the proper title for the register should read:

"OFFICIAL ARMY REGISTER"
(RESERVE MEDICAL OFFICERS)

instead of:

"OFFICIAL ARMY REGISTER"
(MEDICAL SECTION—OFFICERS' RESERVE CORPS)

We see no reason why each section of the Officers' Reserve Corps should not also publish a register. For example, we would propose that there be one register also for reserve infantry officers, another register for reserve quartermaster officers, and so on to cover all of the reserve officers enrolled by the army.

We would pattern the preparation of this register of reserve officers very much after that now being used for officers of the regular establishment. To make the register generally useful we would, however, embody certain changes therein. For example, we would arrange all officers under their different grades with their relative rank in each grade indicated by serial numbers. The first page of the register would start with the colonels and be headed by the name of the officer who was number one on the list of colonels. Colonels, of course, would be followed by a list of lieutenant-colonels and so on down to the junior lieutenants.

As for the regular register, the record would show for each officer, in the first column the name, rank, date of rank, military awards, and college and university degrees with date of these. In the second column could be shown the military service, such as dates of the various commissions, etc.

In the third column could be shown the home address, specialties or nature of practice in which engaged, hospital appointments, officerships in societies, etc. In the fourth column, place and date of birth and in the fifth, state from which appointed (the foregoing all to be shown in the first section of the register).

In another section of the same register could be shown a table of the distribution by states, this to be followed by casualties, showing by name, resignations, deaths and discharges during the year. This could be followed by insertion of histories of organizations and

such other items of historical data as would prove of general or official interest. This might well include a brief history of the organizations and operations of all the sanitary organizations utilized during the world war but which have now gone out of existence.

Schedules of pay tables of the army should follow this, and lastly the general alphabetical index of all the names contained in the register. Basic laws affecting the reserve corps should be inserted in fly leaf.

This register would prove a very useful document. It would make an excellent reference record, something that we now sadly lack. During the war, regular officers in charge of large projects knew absolutely nothing of the make-up of the Medical Reserve Corps. The possession of a copy of this register would have proved invaluable to them in making selections and assignments. Every officer in the reserve should be furnished a copy of this register annually. In that way he would become acquainted with the names, relative rank and location of other reserve officers, particularly those in his own or nearby communities. It could also be placed on sale at the Government Printing Office at cost price, and made available for libraries, medical societies, etc., which would be interested in having copies for reference.

Reference to the register would definitely fix the lineal rank of every officer whose name is borne thereon just as is now possible for officers of the regular establishment. Another thing, as the years went on it would be a complete record of a man's service from the time he joined, when his name was away down on the list of lieutenants, to the present when perhaps he might be well up on the list of colonels. "Know ye one another!". So much for the book.

FOURTH STEP: TRAINING OF RESERVE OFFICERS

The training of reserve officers will be discussed in brief and only because it has some relationship to our scheme and will require careful consideration if it is adopted. If a young man joins the reserve today as a first lieutenant, and as the years go by is successively promoted through the grades of captain, major, etc., until twenty-five years hence, let us say, he is a colonel on the list, and may have attained that rank without ever having had a single day of active duty—should we remain content to let the matter rest there? Most emphatically, No! We believe that no reservist would accept promotion to a higher grade without at least making a faithful effort to keep abreast of the medico-military requirements of the grade in which he would have to serve were he suddenly ordered out in time of war to join the colors. In fact it will be necessary to *require* of all reservists some attention to training or instruction, and eliminate those who fail to attach any great importance to that end of their military status. It is safe to assume that any fair minded and conscientious reservist would demand instruction in the event that the war department did not provide and require it. But in imparting this instruction by no means should reversion to the old order of things be permitted. However, the entire subject of training of our forces has not yet been developed, and any ideas that we might advance now would be premature until we become familiar with the basic fabric on which our reorganization is to be built. In a general way, however, we might add that the Medical Department desires to maintain two schools, one at Washington which will be known as the Medical Department Technical School and in which will be taught strictly professional work, and another one to be established at some camp not yet selected and to be known as the Medical Department Field Service School, where instruction in all field matters will be given. In addition to these two schools, Medical Department personnel will also have the option of access to training camps, particularly those in which combined maneuvers are held.

At the Medical Department Field Service School we hope to maintain complete exhibits of all Medical Department units, sanitary devices, etc., with sufficient trained personnel always on hand to demonstrate their uses. For example, among many other exhibits one should be able to see there a sanitary train in operation, an evacuation hospital complete and ready to function, and at times a standard hospital train. When our educational program has been placed on a firm foundation, we should permit all reservists largely to follow their own inclination and elect the time, place and character of the course which they desire to take. With a large reserve list, all the men on it, by means of suitable questionnaires sent out at stated intervals, will be encouraged to elect the kind of work they desire to follow if called into active service. Some would elect administrative work, others mobile base or evacuation hospital instruction, and still others duty with combatant organizations.

A complete pamphlet on all Medical Department training resources should then be compiled and distributed among reserve officers. We should make these instruction centers so attractive and a residence therein so interesting that the reservist, instead of spending all of his vacation in the mountains or at the seashore, would take a part at least at one of these centers. They should be open for attendance by these officers the year round, barring, of course, climatic conditions where necessary. Then say to the reservist: "The door is open, come as often and stay as long as you like." To meet the expense item, there should be written into any basic training law a provision that any reserve officer proceeding from his home by the most direct route to the training center he elects is automatically (under his commission) placed on active duty and entitled to the legal traveling expenses, pay, etc., during the time that he is proceeding to, remains at, and is returning from the training center; the authority for such pay and allowance while under instruction not to exceed that for one month in any calendar year, but to be cumulative up to four years. This clause would enable the reservist, if he so desired, to attend the instruction center for four months on full pay once every four years or for two months every two years, in the event that he did not care to spend his annual monthly vacation in this manner.

Herein we are attempting only in a general way to state how we believe training, particularly for reserve medical officers, should be developed and encouraged. Any plan adopted would necessitate the incorporation of many details that need not be recited here. For example, at some of the centers there would necessarily have to be some check made on the attendance. A man would probably be required to write direct to the center beforehand and receive permission to come at a certain time, in order that he might be assured of accommodations.

Furthermore, we would reduce didactic instruction to an absolute minimum. Instruction should be by demonstration and actual working exhibition of the specialty in which the reservist is interested. Going through squads right, squads left, right hand salute,

left hand salute, and lining up with mess kits should be relegated to the background. Of course the reservist recruit, the man just out of college, who knows nothing of soldiering would need some instruction along these lines. In fact, he would probably be the first to suggest it. Nevertheless, we want to emphasize the fact that this feature of his instruction should be carried on only long enough to give him an insight into military requirements and to help him to adapt himself to military customs. With it, he can save himself needless embarrassment when called to the colors; without it, he would only be adding to his troubles in such a contingency.

Another point to be emphasized is avoidance of taking up too much of the student officers' time with paper work. For those men particularly interested in it, every opportunity should be extended to familiarize them with this subject; but for the average reservist we would urge very little of this work. If successful in developing our proposed Medical Service Corps, we should always in the future have an ample number of trained officers to carry on this work in hospitals and other sanitary formations and free medical officers from the necessity of devoting their time to this phase of what has heretofore been an irksome task.

FIFTH STEP: PROMOTION IN TIME OF WAR

As predicted above, for a long time to come at least we shall hope that this question will not cause us any great concern. Let us put our house in order by establishing our peace-time list on a methodical and equitable basis. The matter is briefly treated in a subsequent paragraph; but here it is desired to emphasize the urgent necessity of devising some system of promotion in time of war to protect the interests and reward the reservists who have had years of service on the peace-time list.

The adoption of our peace-time list would form a foundation for and greatly facilitate the equitable distribution of promotion in war. It is safe to assume, however, that selective promotion will always prevail in time of war. Also at this time if the excellent principle followed in the recent war is adhered to, the medical officers of the Regular Corps, Reserve Corps, and National Guard become part of the combined or greater U. S. Army. The minute they enter on active service, all National Guard and reserve officers are recognized as being on the same footing as the regular officers, and lose their reserve and National Guard identities.

All new appointments to a war army should be made only in the lowest grade—that of first lieutenant. All promotions into the higher grades of the combined army should be made from one of three lists mentioned—i. e., the former regular list, the former reserve list, and the former National Guard list. For purposes of equalizing promotion as far as possible we would have all men who are promoted to a higher grade in the U. S. Army during war time automatically create vacancies in the other lists when they leave them. "On paper" only this would result in double promotions and enable seniors on the list who are not in a position to render service that attracts attention and results in selective promotion to enjoy at least some promotion as a result of their relative position on their own lineal list. It is only natural in war time that promotion shall go to the man on the ground. To that extent there is a considerable element of chance. The man who is immediately available and who has demonstrated his fitness for a larger task will naturally be selected, even though another man of equal or greater ability is known but not immediately available.

On the declaration of war, no further appointments to the Medical Reserve Corps or National Guard would be made. All commissions would be made in the U. S. Army. All officers on the regular, reserve or National Guard lists retain the permanent rank held during peace time on those lists, but automatically become members of the "Medical Corps, U. S. Army," the great war time pool which recognizes no distinction such as regular or reserve. All new appointments to the U. S. Army during war are to be made in the grade of first lieutenant, all selective promotions to be temporary and made in that army. Assuming that all men on the regular, reserve or National Guard lists are proficient, they should enjoy a normal flow of promotion during war time even though they may not be singled out for selective promotion. To effect this and remedy a fault recognized during the last war, every time a man is promoted to the combined war list let it be assumed for purpose of computation only that he has temporarily created a vacancy in his old lineal list and that it results in the promotion of the seniors in each grade on that list below him. In other words, this scheme would result in "double" promotion.

SIXTH STEP: REVISION OF TABLES OF ORGANIZATION AS THEY AFFECT MEDICAL DEPARTMENT DISTRIBUTION

This does not require any legislation—it is strictly a matter for adjustment by the General Staff at the War Department, and on recommendations made by the Surgeon-General it is now receiving consideration by that body. Unquestionably, inequality of promotion has been indirectly influenced in the past by disproportionate and unfair distribution of grades in existing tables of organization. During the war, whenever the question of promotion for a medical officer arose, it seemed extremely difficult to convince the deciding officer that promotion in the Medical Department had absolutely no connection whatever—as far as legal allowances were concerned—with any table of organization. Medical Department allowances are computed only on the total authorized enlisted strength of the army, and are expressed in one aggregate which, in turn, by the same law is proportionately distributed in the various grades. As mentioned above, tables of organization for Medical Department personnel concern only the War Department—not Congress—and represent merely an effort to foresee and provide for the needs of the specific unit concerned. In other words, they show the proper distribution of the legal allowance of medical personnel and provide for the army by congressional enactment. Quite the contrary situation exists for the line of the army, the basic organization of which is prescribed by Congress in terms of tables, plus certain allowances for a detached officers' list. Heretofore, the Medical Department has attempted to parallel the line system by recommending tables of organization for essential units and then pooling for general distribution and assignment as needed, the officers remaining after the requirements of these tables have been met. The Medical Department "pool" is analogous to the line detached officers' list. Previous tables of organization recommended by the Medical Department have not provided a proper proportion of officers in the higher grades for units serving

with an expeditionary force. This faulty distribution has resulted in throwing into the pool a relatively large and disproportionate number of officers in the field grades—in other words, the higher rank has been reserved for officers in the home territory to the corresponding disadvantage of officers serving in the theater of operations.

An effort is now being made by the Surgeon-General to remedy this condition by effecting a more harmonious equalization in distributing the grades authorized for all Medical Department officers and noncommissioned officers borne on the tables of organization. Any man serving in an expeditionary force should have an equal chance for promotion with those in the home territory. This parity can be maintained only through proper distribution of the legally authorized grades. Places with higher rank must be authorized for our officers who are serving at the front. Furthermore, by authorizing a fair proportion of higher grades in tables of organization for the Medical Department, army, division and other commanders will be automatically relieved of the handicap of which many of them complained during the late war: this with reference to their inability to recommend promotion of a man in their own command simply because a place apparently did not exist for him in tables of organization. This left many vacancies that were never filled, and denied to reservists the promotion to which they were legally entitled. If a generous commander, in an effort to reward meritorious service, recommended a medical officer for promotion, he stood a good chance of losing his services because of the necessity of transferring him elsewhere where a place for him under tables of organization could be found. In accordance with the principles enunciated above, the more important changes proposed in tables of organization now under consideration are: division surgeon to be a colonel; each battalion surgeon to be a major; sanitary train commanding officer to be a colonel; field hospital battalion commanding officer to be a lieutenant-colonel; medical laboratory section of sanitary train to be in charge of a major; evacuation hospital (750 beds) to have one colonel, two lieutenant-colonels, seven majors and twenty-six captains and first lieutenants, a total of thirty-eight; mobile surgical hospital (250 beds), one lieutenant-colonel, two majors and sixteen captains or lieutenants, total nineteen; base hospital (1,000 beds), one colonel, two lieutenant-colonels, seven majors, twenty-nine captains and lieutenants, total thirty-nine; convalescent camp (1,000 beds), one colonel, two lieutenant-colonels, two majors, twelve captains and lieutenants, total seventeen; camp hospital, one lieutenant-colonel, three majors, eight captains or first lieutenants, total twelve; hospital train, one major, three captains or first lieutenants.

CONCLUSION

In our opinion the methods now prescribed for enrolling, classifying, training, promoting and calling to active service the medical reserve of the country are far from satisfactory. The organization of the reserve must be revamped and based on more scientific principles. The plan we are proposing may not be ideal, but we offer it as an effective means for betterment. Discussion of any of the features of our proposition, particularly with reference to constructive suggestions for improving existing or prospective conditions, in the columns of this journal or by correspondence direct with the writers, is invited. If this article results in concentrating a little more thought at large on this very important phase of our national preparedness, the principal object of the writers will have been accomplished.

Surgeon-General's Office.

THE BROAD TAPEWORM IN MINNESOTA

FURTHER FACTS AND CONSIDERATIONS

W. S. NICKERSON, S.D., M.D.
LONG LAKE, MINN.

The recent article by Riley[1] is important in calling attention to the frequency of occurrence of the broad tapeworm in Minnesota, and especially in putting on record evidence of two more cases of native infestation by *Dibothriocephalus latus*. I desire to call attention to some other facts overlooked or not considered in the paper of that author.

NATIVE FOCI OF INFESTATION

Four clear-cut cases of native infestation have been reported. The first of these is the case of Dr. O. W. Parker of Ely, Minn., reported by me in 1906.[2] This, Riley refers to as "the only recorded case . . . not clearly explicable on the theory that the parasite was an importation."

The second case was that of Dr. Olaf A. Olson of Minneapolis, demonstrated by me before Section F. (Zoology) of the American Association for the Advancement of Science in Minneapolis (1910) and briefly reported in 1911.[3] As this report did not appear in a medical journal, it seems to have been unnoticed by physicians. Riley, who evidently intended to give full credit to my work, has also overlooked it. Under these circumstances I may be excused for quoting a part of it here.

> This case occurred in a woman who was born and has always lived in Hennepin County, Minn., never having been out of the state except once for a visit in North Dakota. While there, she ate dried and smoked fish (otherwise uncooked), and it was soon after her return home that she experienced symptoms attributed to the tapeworm. The infection must therefore have occurred in America and from the eating of American fish.

The other two cases are those reported by Riley.[1] We have, therefore, four unquestionable cases on record in which the patient acquired the parasite in this country—in three of the cases definitely in Minnesota, in the other either in Minnesota or in North Dakota.

Stiles[4] says that "it is probable that immigrants will infect the fish in some of our lake regions." The case of Dr. Parker (reported in 1906) demonstrated that this had already occurred before the publication of Stiles' prediction.

Riley claims that the general view of medical men is that "there is very little evidence at present to justify an assumption that native foci of infection exist in this country." However true this may have been in the past, it must be said that for the future any such view

1. Riley, W. A.: The Broad Tapeworm, Dibothriocephalus Latus, in Minnesota, Additional Records, J. A. M. A. **73**: 1186 (Oct. 18) 1919.
2. Nickerson, W. S.: The Broad Tapeworm in Minnesota, J. A. M. A. **46**: 711 (March 10) 1906.
3. Nickerson, W. S.: Some Data Concerning Dibothriocephalus Latus in America, with Report of a Second Case of Infection Acquired in the United States, Science **33**: 270 (Feb. 17) 1911.
4. Stiles, C. W.: Osler's Modern Medicine, **1**: 568, 1907.

on the part of physicians can no longer be justified on the ground of lack of evidence, but instead must be attributed to their lack of knowledge of the facts. In reality, the case of Dr. Parker was enough to establish absolutely the existence of one focus of infection in America. As the number of reported cases becomes greater, more definite knowledge will be gained concerning the extent and number of such foci.

FREQUENCY OF DIBOTHRIOCEPHALUS LATUS INFESTATION IN AMERICA

Riley quotes Stiles[4] as stating that over thirty cases have been recognized in the United States, chiefly among foreigners. In 1911[3] I reported:

> I have collected from physicians reports of the occurrence of the fish tapeworm (*Dibothriocephalus latus*) of man in sixty-five cases, fifty-one of which were in Minnesota. But six of these have been previously mentioned in literature. The hosts in two cases were Swedes, in one a Japanese, in two native-born, and the others with few if any exceptions were Finns.

From my experience in collecting these instances I feel certain that Riley's belief that "there are sections of Minnesota in which it is by all odds the commonest of the large tapeworms of man" is absolutely correct. It may be further stated that this condition will be found in any region, whether in Minnesota or elsewhere, which has a predominance of Finnish immigrants in its population. Furthermore, I feel certain that any desired number of cases within reason could be obtained. The number reported was sufficient to establish the prevalence of the worm in Minnesota, and its special frequency among Finns. I did not continue the search for more cases.

I very much doubt that it is more abundant in Minnesota than in several other states in which the sources of the population and the conditions of life are essentially similar. It is quite possible that an equal amount of study of helminthologic conditions in adjacent states might show *D. latus* as abundant there as in Minnesota.

THE PAUCITY OF PARASITOLOGIC EVIDENCE IN HUMAN CASES

It is worthy of note that none of the four known cases of native infestation with *D. latus* was reported by the physician who treated the case, and in neither of the cases which I reported were the special significant facts secured by the attending physicians until at my request they made secondary investigations. I wish to recognize fully the courtesy of these gentlemen in getting these facts for me; but the essential and significant point is that the facts were brought to light only through the cooperation of a physician and a parasitologist. It seems a safe assumption that, had it depended on attending physicians to obtain the evidence, no case of native infestation would have been recorded and relatively few cases of *D. latus* infection would have been reported. And what is true of this human parasite is probably equally true of many or most other species. For parasitologic data our main reliance must be on parasitologists. Physicians have small interest in parasitic cases beyond relieving their patients from the unwelcome guests; and most of them have very meager knowledge of the parasites removed. All tapeworms are alike to them, and any data based on their determinations (diagnoses) are therefore of doubtful value. It is probably not overstating the case to say that helminthologic determinations made by physicians who have not also been trained as zoologists are of no greater value than diagnoses of intra-abdominal conditions (for example, appendicitis) made by zoologists who have not also had a medical training.

As people suffering from parasites very naturally and properly go to physicians for treatment, it follows that few cases of animal parasitism in man come to the attention of parasitologists. Thus is explained the paucity of data on human parasitology in this country, and also the questionable accuracy of many of these.

PARASITOLOGISTS AS CONSULTANTS

Few physicians realize that about as much study and experience are required to make a competent parasitologist as to make a competent physician; and competence in one field no more implies competence in the other in one direction than in the reverse. To be both physician and parasitologist is as rare as to be both physician and lawyer. In view of these facts and of the greatly increased rôle which animal parasitism has been shown in recent years to play in the causation of human disease, it becomes important that cooperation between these two classes of scientific workers be brought about. The physician who has to treat a case of human parasitism needs the benefit of consultation with a parasitologist, although in most cases it would be no more necessary for the consultant to see the patient than it would for the pathologist who diagnoses a tumor removed at operation. But the proper diagnosis of the case is dependent on the report of the specialist in both cases, and the degree of special knowledge required is equally great. The importance of a reliable diagnosis is generally recognized in the tumor case but not in the parasite case.

A difficulty in securing to the physician such consultation arises from the fact that parasitologists are not as numerous nor so easily accessible as pathologists—just as cases calling for their services are probably not as common as those calling for the services of the pathologist. This difficulty may, however, be overcome. The zoologists of the Bureau of Animal Industry in Washington are ready at any time to make determinations and reports of human or other parasites sent them. Furthermore, in most state universities and in many other universities, colleges and agricultural colleges there is some competent member of the zoological department who would be willing to make determinations of human parasites and give any needed suggestions or advice at little or no charge.

STATE PARASITOLOGISTS

It would seem best, however, that the state university should be made a central clearing-house for all such cases within the state. Some member of the department of zoology should be appointed or recognized as state parasitologist on whom would fall the task of receiving, classifying and reporting on human parasites sent him. Notices should be sent out to physicians giving directions for preserving and forwarding specimens accompanied by proper data and offering them the benefit of free determinations and any needed suggestions. In this way opportunity would be provided for the gathering of useful knowledge which is now lost and statistics so gathered would have the advantage of reliability. Physicians would receive helpful direction and suggestions as to possible sources of infestation, prophylaxis and problems for investigation.

The main question is, Can physicians be made to realize their need for such aid as I have suggested, and will they take enough interest in the matter to send in the specimens?

Clinical Notes, Suggestions, and New Instruments

REPORT OF A CASE OF SEVERE HEAD TETANUS WITH RECOVERY *

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House Physician, Roosevelt Hospital

This case is presented as one not uncommon in the services of large hospitals today, and as showing the ready response to antitoxin even after the onset of symptoms.

History.—A Finn, aged 36, admitted at 2 p. m., Nov. 8, 1919, to the service of Dr. Evan Evans, nine days previously, while returning from work late at night, had been waylaid by several men, beaten about the head and robbed. When he regained consciousness next morning he found he had a large laceration of the left ear and scalp. The wound was sutured at a nearby hospital, but tetanus antitoxin was not administered, so far as could be ascertained. He returned to the same hospital during the following week for dressings. On the seventh day a friend noticed that the left side of his face was flattened; on the eighth day the flattening was more marked and the patient had difficulty in opening his mouth. On the afternoon of the ninth day he presented himself to the emergency department of the Roosevelt Hospital.

UNITS OF ANTITOXIN ADMINISTERED

Date	Subcutaneous	Intravenous	Intraspinal
Nov. 8	3,000 (2 p. m.)	8,000 (4:30 p. m.)	5,000 (5 p. m.)
Nov. 9			5,000 (10 a. m.)
Nov. 9			5,000 (4 p. m.)
Nov. 10			4,000 (2 p. m.)
Nov. 18	1,500		

Physical Examination.—There was a complete left facial paralysis of peripheral type and marked trismus, the patient being able to open his mouth not more than 1 cm. There was a deep laceration, 4 cm. in length, at the posterior aspect of the left ear and scalp, which had been closed with five horsehair sutures. There was a small amount of foul smelling, purulent discharge, and a diffuse redness and swelling around the wound. The pupils were equal, regular, and reacted sluggishly to light. The neck showed moderate opisthotonos. The superficial abdominal reflexes were present; there was a moderate Kernig reaction; the knee jerks were hyperactive but equal; Babinski reflex was + +; there was no ankle clonus, paralysis or stiffness. The temperature was 99.2 F., respirations 20, and pulse 80.

Laboratory Findings.—Urine tests were negative except for a trace of albumin. The blood showed: white blood cells, 14,000, with 81 per cent. polymorphonuclears; red blood cells, 5,000,000; hemoglobin, 75 per cent. (Sahli); Wassermann reaction negative. Bacteriologic: On the morning following admission, two stab cultures were made in glucose agar tubes from the deepest part of the wound. After twenty-four hours of incubation, growth had occurred along the stab, with the formation of gas. Smears from the culture showed numerous long, slender, gram-positive bacilli with a large clear spore at one end, which morphologically were *B. tetani.* There were also small, gram-negative bacilli present in large numbers. These were later identified as *B. coli.* Inoculation was made direct from the original stab culture into the root of the tail of a white mouse. The mouse died in fourteen hours with marked stiffening of the extremities.

Treatment.—1. General Measures: The accompanying table gives the number of units of antitoxin administered. It can be seen that the greater part of the antitoxin was given by the intraspinal method. In addition to this, 1,500 antitoxin units were applied locally to the surface of the wound for two weeks. The diet consisted of fluids, such as milk, cocoa and eggnog with the addition of large amounts of sucrose and lactose.

2. Local Measures: At the time of admission the sutures were removed and the wound opened wide. The following morning the wound was washed with hydrogen peroxid, then with 3.5 per cent. tincture of iodin, followed by 1,500 units of antitoxin, and a dry dressing was applied. The local treatment was not started until the culture had been taken. The wound was dressed each day with the foregoing routine. The injection of antitoxin along the course of the left facial nerve was taken into consideration, but was abandoned on the advice of Dr. Park of the New York board of health.

Clinical Course.—November 8, the patient was admitted.

November 9, he was stuporous, and complained of pain at the site of the intraspinal injection; trismus was complete; opisthotonos was more marked; no vertebral motion was possible.

November 10, the Kernig and Babinski reflexes were more marked and the knee jerks more active. There was bradycardia; pulse from 50 to 60.

November 11, the knee jerks were less active, with the left greater than the right. The Babinski reflex was maximal. Herpes simplex appeared on the lips and the external nares. The patient complained of being stiff all over.

November 14, trismus and opisthotonos were decreasing and the neck was not so rigid. The knee jerks were feeble, with the left greater than the right. Kernig's sign and bradycardia were still present.

From this time on the patient began to show a gradual diminution in the signs. The trismus and opisthotonos gradually decreased in severity. The knee jerks, however, again became very active on November 15, and remained so in decreasing proportion until November 25. The Babinski and Kernig reflexes became negative, November 17, and on this day the neck and back were freely movable. The facial paralysis did not show signs of returning function until November 22; December 1, the facial paralysis was still present but there was daily increase in function, and the trismus had entirely disappeared. The wound was allowed to heal by granulation with frequent dressings and became entirely closed by Jan. 1, 1920. At no time during the course of the disease was there a local or general convulsion, and the patient did not seem especially sensitive to external stimuli. There was a slight fever on the second day, but none subsequently. The patient was finally discharged, with a slight remnant of the facial paralysis but with no other symptoms.

* From the Medical Wards of the Roosevelt Hospital.

ACUTE VERONAL (BARBITAL) POISONING: REPORT OF A CASE

S. J. TAUB, M.D., CHICAGO

History.—Mrs. G. E., a married white woman, aged 28, had been accustomed to using from 10 to 20 grains of barbital almost every night during the last two years following a hysterectomy for fibroids. Her health had been good except for attacks of nervousness and insomnia. Three days previous to my visit, she ate some shrimp salad in a restaurant and became suddenly ill two hours later, with nausea, vomiting, abdominal pains and diarrhea. On advice of her husband that night she took 50 grains of barbital, purchased in the form of 5-grain "veronal" tablets, in order to get some sleep. The vomiting was much less but the diarrhea continued through the night and the patient felt stuporous, drowsy and very weak. During the next day she took 100 grains of barbital again in order to sleep off the effects of what she called ptomain poisoning from eating shrimp salad.

Examination.—I saw her the evening of the same day, Dec. 24, 1919. She was in bed and appeared seriously ill; she was in a stuporous condition and answered questions very slowly. Her voice was very faint and had a prolonged, drawling expression. There was some confusion but no disorientation. The face had an ashy gray hue and the lips were very pale.

The nails were cyanotic and she complained of being very cold. The temperature was 97.5, pulse 52, and respiration

12. The pupils were dilated and reacted to light and accommodation. The tongue was heavily coated and the breath fetid. The heart was regular in action and slow (52). The skin was cold and dry, and it presented a slight yellowish hue.

The patellar, triceps and biceps reflexes were very sluggish. Sensibility for pain, touch, heat and cold was about normal. On attempting to walk to the bath room, she staggered and had to be assisted. There was a marked ataxia of both the lower and upper extremities. She could not hold anything in her hands.

Treatment and Result.—The patient was immediately given an ampule of camphor in oil, 1 c.c., into the deltoid muscle. An attempt was made to pass a stomach tube, but this was impossible because of the patient's poor condition. Strychnin, 1/30 grain, every two hours, alternating with atropin sulphate, 1/100 grain, was given by mouth. Heat was applied externally to keep up the body temperature.

December 25 the patient was somewhat improved, although the diarrhea continued and she felt very weak. Lethargy and drowsiness persisted and she slept at intervals but was easily aroused. The ataxia had not disappeared.

There was typical hematoporphyrinuria, December 25, which persisted for three days, until December 28. After the fourth day, December 26, she was able to sit up in a chair, but the ataxia persisted until December 29, the end of one week.

1204 East Forty-Seventh Street.

REPORT OF CASE OF INTUSSUSCEPTION WITH GANGRENOUS APPENDIX IN EIGHT MONTHS OLD BABY

Robert K. Buford, M.D., Hansford, W. Va.

History.—A well nourished girl, aged 8 months, referred by Dr. G. S. Hartley, while sitting up in bed playing, commenced crying with severe abdominal pain, which was evidently of paroxysmal character, and was followed by vomiting. The child became pale and listless. The bowels had moved three times during the day; the last stool was normal and contained no blood. On palpation of the abdomen, a tumor mass was found in the right hypochondriac region. The body assumed a position of opisthotonos following another sudden paroxysm of pain. Rectal examination was negative. Blood and mucus, but no fecal matter, were obtained by enemas. A diagnosis of intussusception was made and the baby was brought to the Sheltering Arms Hospital within thirty-six hours after the onset, and I saw her, in consultation with Dr. Hartley, and confirmed his diagnosis. A tumor mass was demonstrated by fluoroscopic examination.

Operation and Result.—A right rectus incision was made under ether anesthesia. An ileocecal intussusception was found, the ileum being invaginated into the cecum, which was pushed up into the ascending colon. The appendix was gangrenous throughout. The involved intestines were injected but showed no gangrene. There was some free fluid, serous in character, in the peritoneal cavity. The blood supply of the obstructed intestine was not impaired. The intussusception was reduced by a slow general milking process; the appendix was removed and the wound closed in the usual manner without drainage. The operation was performed in twenty minutes, and the baby was awake before leaving the table.

Postoperative treatment consisted in the prevention of reverse peristalsis, and in stimulation, nourishment, and combating intestinal toxemia. Plain morphin sulphate was given as indicated, beginning with 1/120 grain and in increasing quantities every hour until 1/16 grain was reached. Then as a routine measure, this drug was continued in doses of 1/16 grain every four hours for the first seventy-two hours. The toxins were counteracted by proctoclysis and hypodermoclysis of physiologic sodium chlorid and 5 per cent. glucose solutions, respectively.

No nourishment was given by mouth for the first thirty-six hours, after which time, breast milk was fed every two hours in one-half ounce feedings. This was continued until the morning of the fourth day, when the child was put to the breast and allowed to nurse ten minutes every four hours until the mother began menstruating. Artificial feeding was then resorted to until the subsidence of all menstrual phenomena; at alternate periods it was given all the distilled water it would take.

The wound healed by first intention and the baby was discharged from the hospital three weeks after operation.

Therapeutics

A Department Devoted to the Improvement of Therapy. A Forum for the Discussion of the Use of Drugs and Other Remedies in the Treatment of Disease.

USE AND ABUSE OF CATHARTICS*

(*Continued from page 393*)

PURGATIVE PILLS

PODOPHYLLUM

Podophyllum was introduced by the "eclectics" during the period when these practitioners endeavored to substitute drugs of "kindly" action for those drugs, used by the "regular school," that were harsh and dangerous when employed without the necessary admixture of brains. Calomel was anathema to them, and not without cause. So they hunted for a substitute for this drug, and believed they had found it in podophyllum, which came to be known as the "vegetable calomel."

One of the points in which podophyllum resembles the mild mercurous chlorid is the comparative insolubility of its resinous active principles in the acid stomach and their solubility in the alkaline intestinal secretions. As in the case of calomel, its action seems to be especially exerted on the upper portion of the small intestine. Thus, Ringer quotes some dog experiments by Anstie in which it was found that, after injection of an alcoholic solution of resin of podophyllum into the peritoneal cavity, the small intestine, especially toward the lower end of the duodenum, was extremely congested; and, in some instances, the lower part of the duodenum was extensively ulcerated. The large intestine was but slightly engorged. Although the injections were poured into the abdominal cavity, the peritoneum itself was not at all inflamed, even around some unabsorbed granules of the resin.

Mode of Action.—Podophyllum is an irritant to skin and mucous membranes. It tends to act as a purgative even when applied to ulcers or raw surfaces, or when given hypodermically, though the local irritation produced precludes its practical employment in this manner. It must be classified as a drastic cathartic in view of the fact that overdosage produces gastro-enteritis. A sufficiently small dose, from 0.003 to 0.006 gm. (1/20 to 1/10 grain) of the resin, produces merely laxative effect; in doses of 0.008 to 0.030 gm. (1/8 to 1/2 grain) this resin is an active purge. A single dose of 0.05 gm. (1 grain), or a daily dose of 0.10 gm. (1 1/2 grains), as a general proposition should not be exceeded. Excessive dosage may produce bloody and slimy stools, especially in children. It may occasion, even in medicinal doses, considerable colic and sometimes nausea. Podophyllum has little tendency to produce after-constipation. Hence it is suitable for prolonged use.

* This is the eighteenth of a series of articles on the pharmacology, physiology and practical application of the common laxatives and cathartics. The first article appeared October 18.

Unfortunately, it is a rather uncertain cathartic, a dose, adequate to purge one person violently, being inoperative in another. Its dosage, therefore, should be small at first and gradually increased as necessary. Likewise does the time required for action vary from a few hours to twelve or twenty-four hours or more. Combination with some other agent, such as aloes, might rectify some of these defects.

Indications.—Podophyllum is worth a trial in cases of "biliousness," especially those of the frequently recurring type, in which the repeated administration of calomel would be contraindicated because of danger of mercurial poisoning. The syndrome of "biliousness" need not be present in its full evolution. Thus, certain types of sick headache are relieved by agents of this class better than by anything else. So may certain cases of periodically recurring attacks of indigestion. As podophyllum cannot possibly act as an antiseptic—an action that, as we have seen, is doubtful in case of calomel—a more suitable explanation for the special value of the "cholagogues" in "biliousness" than that based on the theory of antiseptic action might be built on Alvarez'[1] theory of "reverse peristalsis." He believes that the syndrome of biliousness is produced by a focus of excessive irritability in a lower portion of the digestive tube, for instance, a chronically inflamed appendix, which upsets the normal gradient of irritability that should become progressively less as we proceed from above downward. Now it is not unreasonable to assume that some of these purges, with special action on the upper portion of the small intestine, might, by increasing the irritability of the duodenum and jejunum, restore the previously upset "gradient of forces." This is merely offered as a working hypothesis for experimentation. It cannot as yet be even dignified with the term theory.

Method of Administration.—The resin of podophyllum is the only preparation of this drug that should be employed. The name "podophyllin" has been applied to this mixture of alcohol-soluble and water-insoluble principles. In view of the desirability of limiting the ending "in" to pure principles, the use of this word in the present popular sense is unscientific, and should be abandoned. Let us remember that habits of speech produce and reflect habits of mind.

Resin of podophyllum may be prescribed in the form of a 1:60 alcoholic solution (1 grain to the dram), one or two drops of which may be given on a lump of sugar to children, three or four drops to adults. It is usually given in the form of pills. However, the nicest way of giving it is in the form of tablet triturates, each containing 0.0006 gm. (1/100 grain), one or two of which may be given every hour for from four to ten doses.

COMBINATION OF ALOES AND PODOPHYLLUM

As podophyllum is one of the slowest of all cathartics in action, combination with rapidly acting purgatives is irrational, as is also the case with aloes. On the other hand, combination of podophyllum with aloes impresses one as rational, not only because of similarity in time required for action, but also because of difference in point of chief attack. An experiment should be devised—and might easily be performed by classes of medical students—to test the question whether we have in such combination a real case of heterotopic synergism. Should a patient present a combination of the special indications for these two cathartics, they might be suitably combined in one pill. The National Formulary contains a formula for such a pill under the name, *Compound Pills of Aloes and Podophyllum,* each of which contains:

	Gm.	
Aloes	0.065	gr. 1
Resin of podophyllum	0.0325	gr. ½
Extract of belladonna leaves	0.016	gr. ¼
Extract of nux vomica	0.016	gr. ¼

For reasons given in a previous article, the last two ingredients might as well be omitted. Not only are they useless, but they might do harm, the belladonna by producing dryness of the mouth, and the nux vomica by increasing the reflex excitability and "nervousness" in neurasthenics. But why give the patient a "hand-me-down" article at any time, when he comes to us for individual measurement and fit? Not only is this not best for the patient, but it is even worse for the physician. By getting into the lazy habit of prescribing ready-made preparations, he loses in aptitude and power of devising combinations of his own. How miserably dependent we become when we practice prescribing according to formularies will be painfully evident to the routine C. C. pill and A. S. and B. pill prescriber, who might desire to reform. But it is worth the effort; and the attempt to get out of the rut should be made before a sclerotic condition of habits of thought and action have made such a change impossible.

(To be continued)

1. Alvarez, W. C.: The Syndrome of Mild Reverse Peristalsis, J. A. M. A. **69**: 2018 (Dec. 15) 1917.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

CHLOROXYL.—Cinchophen hydrochloride.—Phenylcinchoninic acid hydrochloride $C_6H_5C_9H_5NCOOH.HCl$. The hydrochloride of 2-phenyl-quinoline-4-carboxylic acid.

Actions, Uses and Dosage.—The same as that of cinchophen (see New and Nonofficial Remedies, 1920, p. 224) Phenylcinchoninic Acid (Cinchophen) and Phenylcinchoninic Acid Derivatives.

Manufactured by Eli Lilly and Co., Indianapolis, Ind. U. S. patent No. 1,306,439 (June 10, 1919; expires, 1936).

Chloroxyl Tablets 5 grains.—Each tablet contains chloroxyl 0.325 Gm. (5 grains).

Chloroxyl is a yellow crystalline powder with an astringent, slightly bitter taste. It is insoluble in water, ether or chloroform, but slightly soluble in alcohol.

When dry, chloroxyl melts at about 223 C.

Accurately weigh about 2 Gm. chloroxyl, add 250 Cc. half-normal volumetric sodium hydroxide solution and heat on a boiling water bath for one hour. Determine the excess of sodium hydroxide by titration with half-normal hydrochloric acid volumetric solution, using phenolphthalein as indicator. Chloroxyl contains not less than 12 per cent. nor more than 12.8 per cent. combined hydrochloric acid (each Cc. sodium hydroxide solution is equivalent to 0.00912 Gm. HCl).

Dissolve 2 Gm. chloroxyl in 10 Cc. solution sodium hydroxide; heat to boiling, and while hot add acetic acid until no further precipitate is formed. Cool, decant the supernatant liquid and wash the precipitate with distilled water until it is free from acetic acid. Dry the precipitate at 100 C. This precipitate responds to the U. S. P. tests for phenylcinchoninic acid.

Inexpensive Breakfast Food.—DR. J. G. GRANT, Akron, Ohio, writes: Most people are now interested in reducing the high cost of living. For those who use wheat breakfast food, I have a suggestion, after having tested this plan more than a year: Buy wheat from a farmer or dealer and grind it in a coffee mill or food grinder. For two dollars I bought a spice mill, which is larger than a coffee mill. This food is excellent and many times cheaper than that sold in packages.

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SATURDAY, FEBRUARY 14, 1920

EFFECTS OF QUININ ON THE TISSUES

There are circumstances in which the vigorous action of adequate quantities of quinin in the circulation is highly desirable. The alkaloid itself is rather insoluble; but some of the salts of quinin are fairly soluble, and are absorbed with considerable readiness from the gastro-intestinal canal. The Pharmacology of Useful Drugs,[1] issued by the American Medical Association, makes it seem probable that too much importance has been attached to the influence of the degree of solubility of the salts of quinin on their absorption, and too little attention to the selective capacity of the gastro-intestinal tract for absorbing them. In the United States, in contrast with European countries, quinin sulphate is the salt generally prescribed, although the hydrochlorate is decidedly more soluble and ought to be preferred. However that may be, numerous endeavors have been made to secure more effective quinin therapy, particularly in malaria, by modes of administration other than the usual oral path.

Baccelli first suggested the intravenous injection of solutions of salts of quinin when the symptoms of malaria are so severe as to threaten grâve peril to the patient. Subcutaneous or intramuscular injection has also been recommended and frequently employed, particularly in critical cases. Despite the use of care in giving such treatment, much discomfort and pain may be caused; and even if aseptic precautions are studiously applied, a considerable amount of induration if not actual abscess formation is likely to occur at the site of injection. Most therapeutists recognize this danger and warn against it.

That tissue necrosis is produced by strong solutions of quinin salts need not be a surprise when it is recalled that for more than half a century the substance has been regarded by toxicologists as a protoplasmic poison capable of destroying various forms of animal and vegetable cells. The suggestion has at times been made that, because of the observed tissue damage following intramuscular injections, this mode of administration should be abandoned. A recent experimental inquiry by Colonel Dudgeon[2] of the British Army Medical Service on the effects of injections of quinin into the tissues throws new light on the actual conditions developed by the procedure. It had been suggested that in order to avoid the untoward results, intramuscular medication should be carried out only with dilute solutions. Dudgeon points out, however, that injection of quinin in solutions so dilute as to avoid edema and tissue necrosis is not of practical utility in man. Concentrated preparations of quinin produce more intense necrosis than do dilute ones; but when the latter are such as to be of therapeutic value, they also excite the tissue changes at the site of infection.

A concentrated solution of quinin is absorbed rapidly from the tissues even in patients who are moribund. Dudgeon insists on the necessity of realizing that tissue necrosis—spreading edema and local blood destruction—are produced by the solvents frequently employed for quinin administration; and the effects are only slightly inferior to those excited by the quinin salts and the alkaloid. No advantage was gained by the addition of oil or by injecting the alkaloid dissolved in alcohol or ether. Necrosis of blood vessels in the area of injection is a common result. This leads, according to Dudgeon, to hemorrhages into the tissues. Extensive damage of these sorts in the neighborhood of an important nerve trunk may result in nerve palsy.

It may be that a choice between disadvantages will dictate the continuance of intramuscular injections of quinin. If so, the limitations and dangers of their use in practice need to be appreciated clearly and specifically. Daily doses administered for periods of a week and more in the gluteal region—a favorite site of injection—are not unknown. Such cases have been found, further, to retain only fragments of healthy tissues in the muscular tracts involved. Hence one can appreciate the force of Dudgeon's warning that repeated intramuscular injections of quinin should not be given into the same area of muscle or tissue directly adjacent, because otherwise permanent injury of muscle or nerves may result.

1. Hatcher, R. A., and Wilbert, M. I.: Pharmacology of Useful Drugs, Chicago, American Medical Association, 1915.

2. Dudgeon, L. S.: On the Effects of Injections of Quinin into the Tissues of Man and Animals, J. Hyg. **18**: 317 (Oct.) 1919.

THE MENTAL CONDITION PRECEDING SUICIDE

It is a curious but well substantiated fact, commented on some time ago in THE JOURNAL,[3] that there are fashions in suicide just as there are in almost every other human activity. Indeed, the fashion changes not only with regard to the methods employed for terminating existence, but also in the whole attitude of peoples toward suicide. In the days of the ancients, suicide was not regarded as a crime. The Stoic school of philosophy taught that every person had the right to decide whether or not to continue in this life.

In the United States alone about 10,000 persons annually terminate their existence by self destruction.

3. The Style in Suicide and Homicide, Current Comment, J. A. M. A. **73**: 1367 (Nov. 1) 1919.

This large number of deaths naturally brings up the question of the prevention of suicide, which in turn leads to a consideration of its causes. Since self destruction is no longer countenanced by public opinion, the number of suicides has decreased considerably, and it is safe to assume that persons seldom resort to the procedure unless they are mentally abnormal or unless there are strong reasons of an unpleasant nature. Certain psychiatrists, Forbes Winslow, for example, have held that invariably persons who commit suicide are mentally abnormal; but there is little doubt that this view is not correct. In the case of criminals, particularly, there is evidence of deliberate suicide by persons perfectly capable of understanding the nature of the act. The fact remains, however, that in existing circumstances the majority of those who take their own lives are mentally abnormal. Recently Brend,[4] in discussing the mental condition preceding suicide, has shown that probably 50 per cent. of all such persons are definitely insane, and that most of these are suffering from melancholia, chronic alcoholic insanity, or the hebephrenic form of dementia praecox. The statistics from certain European army hospitals indicate that patients suffering from psychoses, particularly those of the manic-depressive type, are much more likely to commit suicide than patients suffering from neuroses. Neurotic persons frequently discuss suicide and express fear that they will do away with themselves, but they hardly ever reach the point of actually attempting self destruction. Figures quoted by Brend show that among 3,700 patients suffering with neuroses there were only one suicide and two unsuccessful attempts, whereas among 3,000 patients suffering from psychoses there were three successful suicides and 105 unsuccessful attempts. It is tolerably clear, therefore, that a considerable proportion of all suicides occur in mentally abnormal persons.

The question of the prevention of suicide is intimately associated with the early detection and treatment of insanity. At present, agencies for the early detection and treatment of insanity are conspicuous chiefly by their absence. This is true not merely in the United States but throughout the world. Some progress has been made in combating this condition by the establishment of psychopathic hospitals and by the educational efforts of bodies like the National Committee for Mental Hygiene and its allied state committees; but material progress will not be made until the public has been educated to a more acute appreciation of the importance of the early detection of mental disease, and until the facilities for the early treatment of mental cases under voluntary commitment to a hospital for the insane have been widely extended. It is quite certain that more widespread education in mental hygiene would result in a reduction in the number of suicides.

4. Brend, W. A.: The Mental Condition Preceding Suicide, Practitioner **103**: 1401 (Dec.) 1919.

AMEBIC DYSENTERY IN THE UNITED STATES

Scarcely thirty years have elapsed since Osler[1] published what is believed to be the first report in this country of a case of dysentery in which amebas were found in the stools. Not long afterward, Lafleur[2] reported another case and demonstrated the living parasites. Welch remarked on this occasion that it was the second case of dysentery reported on this continent and the first exhibit of the organism before a medical society in this country.

We have been inclined to regard intestinal amebiasis as something belonging to the tropics and foreign to the United States. The disorder has consequently been expected only in persons who have recently returned from tropical countries. Nevertheless, amebic dysentery has been by no means unknown in the Southern United States, and sporadic cases have been reported from time to time in New England, as well as in the Eastern, Central and Western states. In 1909, Patterson[3] collected records of the disease in twenty-four states, many of them in the Northern sections of the country. Since then practically all of the states have been shown to harbor patients with amebiasis.

Although this type of dysentery has rarely been epidemic in temperate climates, occasional outbreaks have been known to occur, as for example in the German army in East Prussia in 1901.[4] More recently, the special examinations of the feces of very large numbers of persons for intestinal parasites have directed attention anew to the possibility of the existence of amebiasis in this country to an extent formerly unsuspected. Instructive instances have been furnished by the division of parasitology of the California State Board of Health.[5] As a result of a circular letter to forty-five hospitals at points widely distributed throughout the state, a total of fifteen cases of amebic dysentery was reported from eight of these institutions. Out of seventeen cases there were at least six in which the disease seems to have been contracted in California. If a necessarily cursory survey brought to light such a number of cases, it can scarcely be doubted that amebiasis is more prevalent than the identified instances directly indicate.

The situation is complicated further by the undoubted existence of carriers who reveal absolutely no dysenteric symptoms, yet harbor the parasitic organism in some form. Although the motile stages of *Endameba dysenteriae* are very sensitive to change and cannot readily withstand conditions outside of the hosts, this

1. Osler, William: On the Amoeba Coli in Dysentery and in Dysenteric Liver Abscess, Bull. Johns Hopkins Hosp. **1**: 53 (May) 1890.
2. Lafleur: Demonstration of Amoeba Coli in Dysentery, Bull. Johns Hopkins Hosp. **1**: 91 (Sept.) 1890.
3. Patterson, H. S.: Endemic Amoebic Dysentery in New York, with a Review of Its Distribution in North America, Am. J. M. Sc. **138**: 198, 1909.
4. Strong, R. P.: Amebic Dysentery, cited in Osler's Modern Medicine **1**: 489.
5. Cort, W. W., and McDonald, J. D.: Amebic Dysentery in California, J. Infect. Dis. **25**: 501 (Dec.) 1919.

is not equally true of the cysts of the organism. When the latter are voided with the feces, they are apparently very resistant. They survive for considerable periods in water; and this fact is important in relation to the spread of amebiasis. Ordinary bacterial examination of water will not reveal the presence of endamebic cysts. The water may carry contamination to garden produce as well as directly into the drinking supply.

The California investigators, Cort and McDonald,[5] have pointed out that countries with long, dry seasons or those with long periods of temperature below the freezing point will find in natural conditions a considerable check on the distribution of amebiasis. However, conditions might occur in almost any country at almost any time under which there would be sufficient moisture and a high enough temperature to make possible the transfer of the cysts in a viable condition from one person to another. On the other hand, as Cort and McDonald further point out, California is unique in having certain conditions favorable to the spread of amebic dysentery. Within the state are large numbers of people from countries where the disease is prevalent, many of whom are undoubtedly carriers. A large majority of these raise garden produce, or become cooks and domestic servants. The state also has extensive irrigated areas that are seldom, if ever, visited by a freezing temperature for a considerable period. California is also uniquely situated with respect to the introduction of the disease. Yearly there have come in a large number of immigrants, the greater part of whom have settled in the state. These immigrants have come principally from Japan, China and India, where intestinal protozoa are common.

WHAT IS SO-CALLED SCIENTIFIC DRINK CONTROL?

The legal controversies and the debates that have been initiated by the enforcement of nation-wide prohibition in the United States have unexpectedly emphasized that many of the essential facts regarding alcohol and its action are not yet known to science. This is surprising, in view of the extent to which alcohol has been and still is being consumed by man. Nevertheless, it is true that there exist scarcely any manuals which may be referred to by the general reader for authoritative statements of unbiased expert opinion regarding a subject of such widespread interest. Most of the evidence is tinged either with the prejudice of the temperance fanatic or the insidious propaganda of ex parte influence.

The markedly lowered death rate from alcoholism following the legal prohibition of alcoholic beverages in one of our largest American cities was recorded recently in The Journal.[1] In Great Britain the lessened number of convictions for drunkenness following the decreasing sale of alcoholic drinks during the war period has frequently been cited. It is becoming evident throughout the civilized world that either the most objectionable results of drinking must be eliminated by some sort of reform or else the prohibition wave is certain to sweep beyond the shores of the Atlantic. Thus the problem of drink regulation has been brought into new relief. The chairman of the Central Control Board for Liquor Traffic in England, Lord D'Abernon,[2] has thus expressed the hope of the reformers who face the alternative of liquor suppression:

> If by the method of regulation on physiological principles we can secure adequate results for the health and sobriety of the nation, these results will be attained with less apparatus, with less risk of creating alternative evils, with less loss of revenue, with less disturbance of trade and less abrupt violation of the habits of the community.

Prohibition as a national possibility has still for the most part to demonstrate its results and its limitations in this country. It is a new social experiment on a huge scale. Meanwhile we may do well to examine judicially the scientific basis of some of the proposals of those who would regulate rather than prohibit the liquor traffic. Aside from the irritant action of concentrated solutions on the mucous membranes, the pharmacologic or toxicologic effects of alcohol depend primarily on the concentration which it attains in the circulating blood. The Advisory Committee of the Central Control Board in London, including scientists of recognized talent, has directed the investigation of the comparative effect of identical doses of alcohol in dilute or concentrated solutions, respectively. The outcome showed that with dilute solutions the maximum level of alcohol in the blood is lower than when the drug is taken in concentrated form.

The bearing of this on the difference between alcohol in the forms of beer, wine and distilled liquor is obvious. But it was further demonstrated that the same amount of alcohol taken in the form of beer was decidedly less intoxicating than spirits diluted to contain the same dose of alcohol in equal volume. The reason is not demonstrated; but since beers contain ingredients other than alcohol, it is presumably allied to the well known fact that alcohol taken with foods is absorbed more slowly than when it is drunk on an empty stomach. The cocktail and analogous drinks are thus condemned on physiologic principles.

Lord D'Abernon, who presumably speaks with the authority of large groups of conservative Britons, has also discussed the plan of discontinuity of drinking hours—a device, somewhat comparable to the preferment of dilute alcoholic beverages, intended to decrease the evils of drunkenness simply by diminishing the amount of liquor drunk at one time. Experience in Great Britain has unexpectedly disclosed that restricted

1. Prohibition and the Death Rate, editorial, J. A. M. A. **74**: 109 (Jan. 10) 1920.

2. D'Abernon: The Scientific Basis of Drink Control, Address at the Autumn Conference of the Society for the Study of Inebriety, Oct. 14, 1919; Brit. Jour. Inebriety **17**: 73 (Jan.) 1920.

hours for liquor traffic do not accomplish the end sought.

The oxidation and elimination of alcohol proceed at only a moderate rate. According to Mellanby's experiments, the quantity of alcohol included in 2 pints of beer—about 45 c.c. of alcohol—requires an interval of three or four hours before it is completely burned or excreted. Superimposing an extra dose of alcohol within the interval brings the risk of inebriation. Lord D'Abernon points out that no benefit will result, therefore, through drinking less concentrated alcoholic beverages at intervals curtailed and regulated by law, if liquors of high alcoholic content can be consumed within the limited period.

We are told that it is more important to regulate how a nation drinks than how much it drinks. One may accept the principles of the use of drinks of low alcoholic content and the regulation of drinking hours, perhaps so as to make them coincide more nearly with meal hours, as the essential conditions for any promising system of drink control short of prohibition. But it remains to be demonstrated that rationing beer, or restricting the opening hours of the saloon, or any other governmental system short of the elimination of the liquor traffic, will accomplish for human welfare what is expected of prohibition in the United States. Nowadays scientific experiments are being conducted on a national scale.

Current Comment

NEW TARIFF ON DYE PRODUCTS

An event of uncommon interest to the medical profession is the amendment adopted by the subcommittee of the Senate Finance Committee to the bill placing a duty on dyes imported into the United States. This amendment places a tariff of 45 per cent. on the higher saccharids, adonite, arabinose, dulcitol, galactose, inosite, inulin, levulose, mannitol, mannose, melizitose, raffinose, rhamnose, sorbitol and xylose. Prior to the war these chemicals came exclusively from Germany. Their manufacture in this country started as a result of stoppage of importations. Medical officers of the army succeeded in having these chemicals manufactured in the United States, and this protective tariff will, it is believed, save this industry and permit its future development. The tariff was advocated by Professor Stieglitz, chairman of the Committee on Synthetic Drugs of the National Research Council, by Colonel Reasoner, in charge of the field medical supply depot at Washington, and by Colonel Russell of the Army Medical School. Colonel Russell said:

"Many of the rare sugars are used in bacteriology in the differentiation of various disease-producing micro-organisms. It is a well established fact that certain bacteria as, for example, the bacillus of typhoid fever, use certain sugars and from them produce acids and other products which we can measure or detect if present only in small amounts; some organisms, such as the colon bacilli, produce not only acid, but gas, which is caught in a fermentation tube, measured and analyzed. The differentiation of the real from the pseudo-organisms of diphtheria and some other diseases depends on sugar fermentations and on animal experiments.

The quantities used in any one test are quite small but a large variety, and a good supply of the principal sorts is indispensable, and we should not be satisfied to rely in the future on other countries for products of such fundamental importance, but should aid the growing industry which is now being organized in the United States.

SPEAKING OF GLANDS—

Although the glands of internal secretion have been a source of interest to the medical profession for some time, it is only recently that the attention of the lay public has been called to these structures. During the recent illness of one of our noted statesmen, widespread discussion of one of these glands was common, even in polite society. The subject was considered from every possible point of view, and it is doubtful whether there is any well-informed person today who has not some vague idea of the functions of this particular structure. Later, sensational newspapers made much of the discovery—if it should be called such—of the Frenchman Voronoff, that the interstitial cells of the testes might be used to stimulate growth, and as the newspapers would have it, perpetuate youth. Little has appeared in scientific literature concerning this point. However, Macht [1] has just reported that feeding of prostate gland tissue to tadpoles resulted in stimulation of the metabolism, hastening metamorphosis, with the further result that the size of the tadpoles was not diminished, but in many cases actually increased. This effect was produced by feeding the desiccated prostate of the ram, the bull and also that of human origin. It has been known for some time that feeding of thyroid tissue also hastens metamorphosis. In the case of the thyroid, however, there is a shrinkage or dwarfing in the size of the tadpoles as contrasted with the observation that prostate feeding produces increased size and more rapid growth. Controlled experiments made with other desiccated glands fail to produce a similar effect. We are thus beginning to gain an inkling of knowledge regarding certain growth-producing factors of the human organism. One may yet see "gland fathers" and "gland mothers."

WHAT IS THE MATTER WITH ARKANSAS?

Arkansas evidently still elects to be the dumping ground for quacks, charlatans and half-baked medical practitioners coming from schools not recognized in the majority of states. A legislative effort was made recently to secure a new practice act by which this could be prevented, but the bill was killed. Instead of having a single board with a reasonable minimum standard of educational qualifications for those who are to obtain the legal right to treat human disorders, Arkansas has at present divided the authority among six different boards. It now has not only a regular board of medical examiners but also a homeopathic board, an eclectic board, an osteopathic board, a chiropractic board and an optometry board. Any other cult

1. Macht, D. I.: On the Effect of Prostate Feeding on the Development of Tadpoles, J. Urol. 3: 411 (Oct.) 1919.

seeking recognition could doubtless easily secure it in the wide open and generous state of Arkansas. Through the eclectic board in Arkansas, a low grade so-called eclectic medical school in Kansas City, the Kansas City College of Medicine and Surgery, not recognized in Missouri—its home state—continues to exist, since its graduates have easy entry into Arkansas. Through the existence of the several boards, others may prey on the public of Arkansas without first obtaining reasonable qualifications of preliminary and medical education. How long are the people of Arkansas going to stand for such flimsy protection against ignorance and incompetence? Do they appreciate the fact that they themselves are and will be the sufferers?

DEATHS FOLLOW THE EATING OF RIPE OLIVES

The death of six persons in Memphis, Tenn., following the eating of ripe olives, with a fatal prognosis in a seventh case, are reported in the General News department in this issue. Investigation has already revealed the fact that these deaths were due to *Bacillus botulinus*, the olives being packed by the "cold pack" method. The brief report thus far available indicates that the food product in question was a part of a salvaged stock and that the olives when found possessed a noticeably pronounced foul odor. Deaths have previously been reported from the same source in Canton, Ohio, Detroit and New York, and wide prominence has been given to the fact that all of these deaths followed the eating of ripe olives. And yet there will no doubt continue to be persons who will eat noticeably spoiled food, just as there are persons who attempt to outrace railroad trains over grade crossings, persons who step off moving street cars backward and some who refuse vaccination against smallpox.

COMMERCIAL DOMINATION OF BIOLOGIC THERAPEUTICS

The danger of commercialized therapeutics has been enormously increased by the introduction of biologic products. These substances offer a rich field for the commercially minded, first, because of the remarkable results which seem to have followed the use of certain products of this type; second, because the field is new and the mode of action of these substances not readily understood and, third—and most important—because, by the very nature of the problems involved, few physicians are well informed concerning them. The influenza epidemic of last year was widespread and fatal in character. It stimulated earnest research in methods of prevention and cure. We were all in a frame of mind to grasp at any straw. Here and there some worker would cry "Eureka"—only to be disappointed when his product was actually put to the test. However, there were more than enough manufacturers ready to place any product on the market with specious claims that could not be positively denied. Vaccines, serums, proteins—all were advanced with such glowing statements as to their properties that only those physicians who kept their feet firmly on solid ground could resist the appeal. Now we have had another epidemic—mild, it is true—but the memories of last year make the average physician ready to accept anything which promises hope, and the manufacturers—"make hay while the sun shines." Physicians have been and are being deluged with literature on the prophylaxis and treatment of influenza. So far as we know, few publications have contained any word of warning on these matters. One exception has just come to notice: the *Medico-Military Review*, a semimonthly mimeographed publication sent to medical officers of the Army by the Surgeon-General's Office. This says:

> YOU ARE REMINDED that so far a comprehensive analysis of results obtained by the use of monovalent and polyvalent vaccines in the prevention of influenza has not demonstrated their value. Much carefully controlled experimental work is now being carried out on this subject both in civil institutions and in the Army, and any worthwhile advances will be reported in the *Review* from time to time. If a prospective vaccine is developed, it will be prepared at the Army Medical School for general distribution and all medical officers will be duly notified. The general use of the present commercial polyvalent protective against influenza is not considered desirable. Numerous telegrams and other requisitions are being received for influenza vaccine. In view of the fact that no prophylactic influenza vaccine is available, such requisitions should be discontinued.

Association News

ELECTIONS BY BOARD OF TRUSTEES

Council on Pharmacy and Chemistry

At the annual meeting of the Board of Trustees held at the headquarters of the Association, February 6, Drs. F. G. Novy, Ann Arbor, Mich.; G. W. McCoy, Washington, D. C., and George H. Simmons, Chicago, were elected members of the Council on Pharmacy and Chemistry.

Editorial Boards of Publications

The following were elected members of the editorial boards of the special journals published by the Association as indicated: Dr. Joseph L. Miller, Chicago, *Archives of Internal Medicine;* Dr. Fritz B. Talbot, Boston, *American Journal of Diseases of Children;* Dr. Frederick Tilney, New York, *Archives of Neurology and Psychiatry,* and Dr. Samuel T. Orton, Iowa City, to fill the unexpired term of Dr. August Hoch, deceased, *Archives of Neurology and Psychiatry.*

THE NEW ORLEANS SESSION

Hotel Reservations for the New Orleans Session

The chairman of the Local Committee on Hotels, Dr. J. J. Wymer, 1216 Maison Blanche Building, New Orleans, urges those who plan to attend the annual session of the Association at New Orleans, April 26 to 30, to make hotel reservations promptly. (For hotel headquarters see THE JOURNAL, Jan. 10, 1920, p. 110.) The Committee on Hotels will gladly assist those who do not secure reservations at the hotel of their choice to arrange for comfortable lodgings.

By Boat to New Orleans

The schedule of the Southern Pacific Steamboat Line announces a boat to leave New York on Saturday, April 24, and to arrive in New Orleans at 9 a. m. Wednesday, April 28. The boat will lie at the Canal Street Pier, New Orleans, until Saturday, May 1. Passengers may make arrangements so that they may occupy state rooms for the three days on which the sections meet. In this way, they will be assured of comfortable lodgings while at New Orleans.

Dr. Ira J. Haynes, P. O. Box 24, Richmond, Va., who is arranging parties to go by boat to New Orleans, reports that already he has received a number of inquiries indicating interest in the proposed excursion, and wishes to learn as promptly as possible how many desire to join these parties in order that definite arrangements may be completed. Tentatively, he estimates that the time necessary for the round trip by boat will be about, but not over, two weeks; that the cost of the trip will be practically equivalent to railroad fare and the cost of sleeping car accommodations and meals. If the demand warrants, one party will sail from New York and another from some point on Chesapeake Bay. The latter will stop at Old Point Comfort and Havana. The plans are that these boats shall arrive at New Orleans on Tuesday afternoon in time for the General Meeting, the opening meeting of the Scientific Assembly, and the passengers will occupy their state rooms during the time of the annual session. While in New Orleans, breakfast may be obtained on the boat.

Pullman Sleeping Cars May Be Parked at New Orleans

Physicians from different points are planning to charter Pullman coaches which will be parked practically in the center of the city so that they may be occupied during the time of the annual session. This use of Pullman coaches is common at the Mardi Gras and other large gatherings in New Orleans. It provides reasonably comfortable lodgings at moderate rates. Parties starting from different points may charter a Pullman car and retain it throughout the session, in this way being assured of comfortable accommodations on the going and returning trip as well as while in New Orleans. The terms, including the charges, may be obtained from the railroad ticket office at the point from which such parties will start for New Orleans.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARKANSAS

Baby Clinic at Little Rock.—The United Charities Association, Little Rock, has opened a baby clinic at the Armory City Park, where a nurse is in attendance from 1 to 3 p. m. to instruct mothers on the care of babies. On Wednesdays from 1 to 2 p. m. babies will be weighed and examined by the physician in charge. When babies are too ill to be brought to the station the nurse will visit the home.

Hospital News.—Governor Brough has issued a proclamation calling on the people of the state to support the campaign for raising $300,000 for the erection of a children's hospital in Arkansas. Plans for the hospital have been completed. It will be of fireproof construction throughout. The site for the hospital has not been selected.——Through the cooperation of the city and the Medical Department of the University of Arkansas, the free dispensary in the Isaac Folsom Clinic Building, Little Rock, has been reorganized and reopened. A pharmacy, a laboratory and a roentgen-ray department have been installed, and a clinical clerk has been employed.

ILLINOIS

Cost of Influenza.—The state director of health estimates that the influenza-pneumonia epidemics of 1918 and 1919 have cost the people of Illinois more than $125,000,000. The value of the life of an adult is placed at $3,000 and that of a child at $500. During the year ended June 30, 1919, there were 223,683 cases of influenza and pneumonia, with 25,222 deaths.

Chiropractor Serving Jail Sentence.—Mrs. Emma Calvin of Monticello is now serving a jail sentence for violating the medical practice act. Mrs. Calvin is a member of the Illinois Association of Chiropractors, and the secretary of the association, with headquarters at Joliet, has sent out a letter to other chiropractors urging that Mrs. Calvin be supplied with reading matter during her incarceration.

Personal.—Dr. Albert R. Trapp, Springfield, is reported to be seriously ill with pneumonia.——Dr. Charles E. Dorr, Worden, was recently attacked on the street by a coal miner and sustained fractures of the nasal and one of the malar bones.——Dr. William H. Grayson, Granite City, the oldest member of the Tri-City Medical Society, was the guest of honor at a banquet given by that organization, January 23.

What Medical Freedom Advocates Want.—The advocates of "medical freedom" propose the following as a section of the bill of rights in the contemplated new constitution of the state of Illinois: "The free exercise and enjoyment of the profession and practice of the art of healing, without discrimination shall be forever guaranteed; and no person shall be denied any of his opinions in the field of that art; but liberty of conscience hereby secured shall not be construed to dispense with sanitation in the sense of cleanliness, or excuse acts of licentiousness, or justify practices inconsistent with the peace and safety of the state. No person shall be required to obey, or to pay taxes to support, any practitioner or any system of healing against his consent, nor shall any preference be given to any school or system of healing."

Chicago

Joint Meeting.—At a joint meeting of the Chicago Medical Society and Chicago Pathological Society held February 11, papers were read by Dr. Harry Gideon Wells, on the "Pathological Characteristics of Tumors in Mice, and Their Relation to Human Tumors," illustrated by lantern slides, and by Dr. Maude Slye, on "The Inheritability and Biological Characteristics of Tumors," illustrated by charts.

Indictments.—Indictments were returned by the Federal Grand Jury, January 21, against William H. Sage, former head of the narcotic division of the Internal Revenue Bureau, Dr. Joseph A. Greaves and Hyman Cohen, proprietor of the William H. Sage Drug Co., charging them with violation of the Harrison Narcotic Law.——Dr. Anna B. Schultz is reported to have been arrested, January 23, charged with writing wholesale prescriptions for liquor.

MAINE

Work of State Laboratory.—More than $36,000 was saved to the people of Maine during 1919, through 10,000 free tests made by the diagnostic laboratory of the state department of health at Augusta, of which Dr. Herbert E. Thompson, Augusta, is director and Mrs. Ruth Patten is biologist. Of these tests 5,837 were made for venereal disease; 1,063 for diphtheria; 1,827 for tuberculosis; 380 for typhoid; 243 for malignancy, and the remainder for miscellaneous conditions.

New Officers.—At the fifty-first stated meeting of the Cumberland County Medical Society, Dec. 12, 1919, Dr. Francis J. Welch, Cumberland, was elected president; Dr. Daniel Driscoll, Cumberland, vice president, and Dr. Erastus E. Holt, Jr., Cumberland, secretary-treasurer.——York County Medical Society held its ninety-ninth annual meeting in Biddeford, January 7, and elected Dr. Frank W. Smith, York Village, president; Dr. Paul S. Hill, Saco, vice president; Dr. Arthur L. Jones, Old Orchard, secretary, and Dr. Carl G. Dennett, Unity, treasurer.

Venereal Disease Clinics.—Five free clinics for persons suffering from venereal disease who are unable to pay for treatment have already been established in the state. These are at the Augusta Health Center with Dr. George A. Coombs, in charge; at the Mason Dispensary, Portland, with Dr. Gustav A. Pudor, in charge; at the Eastern Maine General Hospital, Bangor, with Dr. Harrison J. Hunt, in charge; at the Bath Health Center, with Dr. Langdon T. Snipe, in charge, and at Dr. Miner's hospital, Calais, with Dr. Walter N. Miner in charge. Clinics will soon be in operation at Rockland and Waterville.

Public Health Work.—Under the direction of Dr. Leverett D. Bristol, Augusta, commissioner of health, a new era of public health work opened in Maine this year when the state was divided into eight health districts with a full-time district health officer in each district. With one exception the new district officers were physicians, qualified both by general practice and by previous health work in their various communities. The new officers are Dr. Clarence F. Kendall, Biddeford; Dr. James W. Loughlin, Damariscotta; Dr. Guy H. Hutchins, Presque Isle; Dr. Edward P. Goodrich, Lewiston; Dr. John F. Stevens, Millinocket; Dr. Henry D. Worth, Bangor, and Alton S. Pope of Waterville.——Legislation went into effect, January 1, providing that a local health officer, either for full or part time, shall be employed by

every community or group of communities in Maine, and such appointments are slowly being made in the different towns, subject to the approval of the commissioner.

MARYLAND

New Officers.—The Caroline County Medical Society at its annual meeting elected Dr. Stephen S. Stone, Ridgely, president, and Dr. John R. Downes, Preston, secretary-treasurer.

Personal.—Dr. George F. Sargent has purchased property near Towson, which he will open as a sanatorium.——Dr. William E. Martin, Harrisonville, who has been ill has recovered and resumed practice.——Dr. Ida M. Kahn of China, in charge of the first woman's hospital at Nanchangfu, and for two years in charge of a hospital for women at Tientsin, spoke at a meeting at the Y. M. C. A. in Baltimore, February 8, on her work in China.

Hospitals Crowded.—Baltimore hospitals, with one exception, are crowded to their capacity with patients. The only hospital whose public ward is not crowded is the Johns Hopkins, the largest in the city. Dr. William L. Moss, Baltimore, president of the Maryland Hospital Conference Association, sounded a warning to the community in reviewing the situation, as the condition is growing more critical every day, with the danger from the spread of influenza and pneumonia. At the office of the supervisors of city charities, where patients may be designated to the free wards, it was said that the situation never had been so serious. The closing of the two colored wards at the Maryland General Hospital because of a shortage of nurses constitutes another serious problem in the hospital situation, as it affects the care of the colored patients.

MISSOURI

Porter Addresses Academy.—Dr. John L. Porter, Chicago, delivered an address before the Kansas City Academy of Medicine, February 13, on "Differential Diagnosis of Chronic Joint Diseases."

Personal.—Dr. Emmett McD. Bridgford, Santa Fe, is reported to be critically ill.——While a grand jury at Kansas City, January 15, was considering criminal charges against him, Dr. John W. C. Boone, Kansas City, is reported to have shot and wounded the husband of the woman who had preferred the charges.

License Suspended.—For soliciting patronage through agents in violation of the medical practice act, the state board of health is said to have suspended the license of Dr. Oscar A. Young, Excelsior Springs, for a period of one year from Nov. 10, 1919. Dr. Young appealed to the circuit court of Clay County which sustained the action of the board.

NEW YORK

State Aid for Tuberculous.—The legislature has been asked to appropriate $1,000,000 for state aid to tuberculous patients. The bill proposes to license boarding houses in the country for the care of tuberculous patients, and to assure medical supervision and proper sanitary conditions.

Personal.—Dr. Thomas B. Carpenter, Buffalo, has been appointed director of laboratories of the department of health of Buffalo to fill the place of Dr. William G. Bissell, deceased.——Dr. George R. Little, Schaghticoke, has been elected and Dr. Stanton P. Hull, Petersburg, reelected a member of the board of directors of the Rensselaer County Tuberculosis Association.

Semicentennial of Society.—The semicentennial anniversary of the Jenkins Medical Society was celebrated at the New York Athletic Club, January 8. Dr. Henry Moffat, Yonkers, presided as toastmaster, and addresses were made by a number of prominent physicians of New York City. The membership of the society is made up of physicians of Mount Vernon and Yonkers.

Postgraduate Course at Albany.—A course in infectious diseases and public health will open at the Albany Medical College, March 4, and sessions will be held each Thursday until the last week in April. An additional day will then be devoted to practical demonstrations, and thereafter the class will be in session on Thursdays and Fridays until June 18. The course will be in charge of Dr. Charles C. Duryee, Schenectady, to whom all communications and applications should be made.

Appropriation to Fight Influenza.—A call on the legislature, February 2, for an appropriation of $50,000 to combat the influenza epidemic, met with instantaneous response. From January 23 to February 2, there were reported to the state department of health, 799 cases of pneumonia, with 139 deaths, and 5,850 cases of influenza, with twenty-one deaths. Advices received at the department of health indicate that influenza is prevalent in rural districts and in Syracuse, Jamestown, Poughkeepsie, Mount Vernon and Albany.

New York City

Venereal Disease Lectures.—During the month of December, audiences totaling 3,400 men and women attended forty-three lectures on venereal diseases given under the auspices of the division of lectures of the bureau of public health education.

County Society Discontinues Prosecution of Illegal Practitioners.—Owing to the expense incident to this work the Medical Society of the County of New York has taken action discontinuing the collection of evidence and the prosecution of cases of unlawful medical practice. Hereafter all cases of unlawful practice which, in the opinion of censors, require investigation or prosecution, will be reported to the police department of the city and the district attorney for action.

Establish and Protect Priority to Medical Discoveries.—At a meeting of the section on historical medicine of the New York Academy of Medicine, February 4, a committee composed of Dr. Robert T. Morris, Dr. Thomas L. Stedman and Dr. A. L. Soresi suggested the creation of a special medical board that should establish and protect the priority of ideas relating to medical subjects. This board should correspond to the patent office; it should patent in its name all new surgical instruments and pay a royalty to the inventors, much as publishers deal with writers of medical books.

Associated Physicians of Long Island Elect.—At the twenty-second annual meeting of the Associated Physicians of Long Island, January 31, the following officers were elected: president, Dr. Henry Goodwin Webster, Brooklyn; vice presidents, Drs. Harris A. Houghton, Bayside, Hugh Halsey, Southampton, and Joshua M. Van Cott, Brooklyn; secretary, Dr. James Cole Hancock, Brooklyn, and treasurer, Dr. Edwin S. Moore, Bay Shore. Following the scientific session a dinner was served at the Montauk Club, after which addresses were made by Father John L. Bedford, Brooklyn; Hon. Walter C. Burton, postmaster, Brooklyn, and the Hon. Regis H. Post, ex-governor of Porto Rico.

OKLAHOMA

Tuberculosis Clinic Organized.—Under the direction of Drs. William E. Lamerton, Julian Field and the public health nurse of Garfield County, Enid has opened a free tuberculosis clinic.

New Officers.—At the annual meeting of the Central Oklahoma Medical Association held in Enid, January 20, Dr. William H. Rhodes was elected president, and Dr. Harry F. Van Dever, secretary-treasurer, both of Enid.

Personal.—Dr. Francis B. Fite, Muskogee, has been unanimously selected by the city commissioners to fill the vacancy as mayor.——Dr. Dock Long, Duncan, has been appointed chief physician of the bureau of tuberculosis of the state department of health.——Dr. and Mrs. David A. Myers, Lawton, were seriously injured in San Antonio, Texas, January 6, in a grade crossing accident in which their automobile was struck by a train.——Dr. James C. Hawkins has been appointed health officer of Blackwell, succeeding Dr. Arlington R. Havens, resigned.

OREGON

Woman Appointed Deputy Health Officer.—Dr. Emma Maki Wickstrom, Portland, has been appointed deputy health officer of Multnomah County and has been assigned to duty with the court of domestic relations.

Hospital Item.—Owing to the need of more hospital space in Portland it is reported that the building at East Second and Multnomah Streets which was begun several years ago will be converted into a hospital of about 100 beds.

New Officers.—At the annual meeting of the Coos-Curry County Medical Society Dr. George Earl Low, Coquille, was elected president and Dr. Philip J. Keizer, North Bend, secretary.——The Portland Ophthalmological and Oto-Laryngological Society at its annual meeting elected the following officers: president, Dr. John F. Beaumont, Portland; vice presidents, Drs. Sherman E. Wright and Ralph A. Fenton, Portland, and secretary-treasurer, Dr. C. Gertrude

French, The Dalles.——At the annual meeting of the Central Willamette Medical Society which includes Linn, Benton and Lincoln counties, in Albany, December 5, Dr. Robert Bruce Miller, Lebanon, was elected president; Dr. Robert A. Jayne, Philomath, vice president; Dr. Robert L. Wood, Lebanon, secretary-treasurer.

PENNSYLVANIA

New Secretary-Editor.—At the meeting of the council of the Medical Society of the State of Pennsylvania, Dr. Frederick L. Van Sickle, Olyphant, was elected executive secretary and will be the editor of the *Pennsylvania Medical Journal* beginning with the July issue.

Epidemics.—The department of public health has instituted active measures for combating the threatened epidemic of influenza. A letter has been sent to each physician emphasizing the necessity of prompt report of all cases of influenza and pneumonia.——The health authorities of Erie have taken possession of the government dormitories at Fourth and Cascade Streets for use as an emergency hospital during the prevalence of scarlet fever.

Arrest of an "Association Doctor."—Alleged to be one of the smoothest "quacks" operating in this country, Dr. John Newhall Kirk was arrested, February 6, by chief county detective, Major S. O. Wynne, at the instance of Dr. Edward Martin, the state health commissioner. At the same time a fugitive warrant from Baltimore was served on the physician. Dr. Kirk was operating here as elsewhere under the name of "Association Doctors."

Philadelphia

Mary Scott Newbold Lecture.—Dr. Alonzo E. Taylor delivered the third of the Mary Scott Newbold lectures before the College of Physicians, February 6, on "Post War Conditions and Problems of Civic Organization in Europe."

New County Officers.—At the business meeting of the Philadelphia County Medical Society, held January 21, Dr. Herman B. Allyn was elected president; Dr. Benjamin F. Devitt, vice president; Dr. James Morton Boice, secretary; Dr. Charles Scott Miller, assistant secretary, and Dr. Edward A. Shumway, treasurer.

Packard Lecture.—Sir Arthur Newsholme, M.D., K.C.B., lecturer of public health administration, School of Hygiene and Public Health, Johns Hopkins University, delivered the annual Frederick A. Packard Lecture of the Philadelphia Pediatric Society in Thompson Hall, College of Physicians, February 10, on "Neo-Natal Infant Mortality."

Campaign for Woman's Medical College.—The campaign to raise $250,000 as an extension fund for the Woman's Medical College of Pennsylvania is two thirds completed, as the result of an intensive drive from January 8 to January 20. On March 11, the seventieth anniversary of the founding of the college will be marked by special exercises, and the building will be open to the public. Five teams organized by women interested in social and civic welfare are working for a $60,000 memorial fund as a tribute to the late Dr. Anna Howard Shaw.

VIRGINIA

Health Department Issues Bulletin.—The health department of Norfolk has initiated a monthly digest of its activities, in which current health problems are discussed.

Personal.—Dr. Ira H. Thomas, Aldie, has retired on account of ill health, after thirty-one years of practice.——Dr. Joseph E. Taylor has been appointed city coroner of Danville, succeeding Dr. Edward H. Miller, Jr., Danville, resigned.

Influenza—Up to January 28, 1,001 cases of influenza had been reported in Richmond, with only four deaths. An appropriation of $10,000 to combat influenza was asked from the finance committee of the Richmond city council, January 27, by health officer, Dr. Ernest C. Levy.

Society Reorganized.—The Southwest Virginia Medical Society was reorganized at a meeting held recently at Pulaski. Meetings of this organization had been suspended since 1916. The membership of the organization includes residents of the counties of Pulaski, Montgomery, Wythe, Smyth and Washington. Members of the profession from counties contiguous to those included and from the cities of Roanoke and Bristol are eligible as associate members. Dr. Wilson R. Cushing, Dublin, was elected president; Dr. Joseph A. Noblin, East Radford, vice president; Dr. Alfred B. Greiner, Rural Retreat, secretary-treasurer.

WASHINGTON

Personal.—Dr. Ralph Hendricks, Spokane, was reelected health officer and secretary of the health board of Spokane, January 9.—— Dr. James T. Mason, Seattle, has been appointed a member of the state board of health succeeding Dr. Henry H. McCarthy, Spokane, term expired.—— Dr. Claude A. Lewis, Fairfield, has been elected mayor of Fairfield.—— Dr. Richard Connell, North Yakima, has been appointed physician of Yakima County.——Dr. Charles C. Benedict, Enumclaw, has been appointed local surgeon for the Milwaukee railway system.

New Officers.—Lewis County Medical Society at its annual meeting, Dec. 8, 1919, elected Dr. James M. Sleicher, Chehalis, president; Dr. Frederick J. Hackney, Centralia, vice president, and Dr. Rush Banks, Centralia, secretary.—— Whatcom County Medical Society at its annual meeting elected the following officers: president, Dr. Hays A. Compton, Bellingham; vice presidents, Drs. Albert M. Dawson, Bellingham, Charles S. Hood, Ferndale, and Carl C. Hills, Custer; secretary, Dr. Edward L. Brinson, Bellingham.—— King County Medical Society at Seattle, January 8, elected as president, Dr. Homer D. Dudley; vice president, Dr. Herbert E. Coe, and secretary-treasurer, Dr. Howard J. Knott, all of Seattle.——Spokane County Medical Society at Spokane, January 8, chose as president, Dr. Arthur T. R. Cunningham; vice president, Dr. James D. Windell; secretary, Dr. Fred G. Sprowl; corresponding secretary, Dr. Edward S. Jennings, and treasurer, Dr. John H. R. Brodrecht, all of Spokane. By a vote of 65 to 30 the society denied the right of any member to engage in contract work.

WEST VIRGINIA

Personal.—At the fourth annual meeting of the West Virginia State Hospital Association, at Parkersburg, Dr. Joseph A. Guthrie, Huntington, was unanimously reelected president of the organization.

State Society Meeting.—At the meeting of the Little Kanawha and Ohio Valley Medical Society in Parkersburg, January 20, it was decided that the annual meeting of the West Virginia State Medical Association be held at Parkersburg, May 18 to 20.

WISCONSIN

Personal.—Prof. Henry C. Tracy, A.M., Ph.D., Milwaukee, has been appointed professor of anatomy in the University of Kansas, Lawrence and Rosedale.

Office Building for Physicians.—The Beloit Physicians and Surgeons Club, January 16, inaugurated a movement toward securing an office building, medical laboratory, and club room for physicians and dentists, to cost $100,000. A committee consisting of Drs. Arthur C. Helm and Harry E. Burger was appointed to take charge of this matter. At this meeting, Dr. Arthur C. Helm was elected president, Dr. Virgil D. Crone, vice president, and Dr. Benjamin Fosse, secretary-treasurer.

CANADA

Personal.—Dr. James Third has resigned as professor of medicine in Queen's University, Kingston.——Dr. Harold P. Rogers, Toronto, has returned after four years' service in Mesopotamia and Syria.——Dr. Alfred K. Haywood, medical superintendent of the Montreal Hospital, has been appointed chairman of the committee of the Canadian National Council for Combating Venereal Disease. The council will interest physicians throughout Canada in the venereal disease problem and in plans of the Dominion government for its solution.——Dr. C. M. Sellery, Toronto, who served overseas in England and France, has been appointed a medical missionary in China, and will take up his work in August.—— Dr. John Noble has been elected chairman of the Toronto Board of Construction.

GENERAL

Secretary Houston Requests Appropriation to Combat Plague.—Secretary of the Treasury Houston, in a communication to Congress, has requested supplemental appropriation in the sum of $250,000 to enable the Public Health

Service to continue its work of controlling the outbreak of bubonic plague discovered in New Orleans last October. Since that time the Public Health Service has been spending $50,000 monthly to effect suppression and control of this disease.

Appreciation of Work of Rockefeller Institute.—The Rockefeller Institute for Medical Research has received a letter from Surgeon-General William C. Braisted, U. S. Navy, testifying to his appreciation of the valuable aid rendered by the institute in connection with the War Demonstration Hospital, New York City. The assistance was not limited to the active period of the war, but continued after the signing of the armistice and indicated a high standard of efficiency in the institute both as to personnel and equipment.

Bequests and Donations.—The following bequests and donations have recently been announced:

Montefiore Home, Hebrew Orphan Asylum, Sanatorium for Hebrew Children, Blind Asylum of New York, Skin and Cancer Hospital, Servants for the Relief of Incurable Cancer, Beth Israel Hospital and Henry Street Nurses's Settlement, all in New York, each $3,700 by the will of Emma Feuchtwenger.

Clarence Barker Memorial Hospital, Biltmore, N. C., a gift of $50,000, from Mrs. Walker Rathbone, Bason.

Columbia University for the equipment of surgical research laboratories, an anonymous donation of $6,000.

Grace Hospital, Toronto, $500 by the will of the late Dr. Charles E. Treble, Toronto.

Boat Trip to Mississippi Valley Conference.—The Mississippi Valley Conference on Tuberculosis will be held at Duluth, Minn., September 2, 3 and 4. The Mississippi Valley Council has chartered the S. S. *North American*, which will leave Chicago, August 30, and returning will reach Chicago on the morning of September 7. The cost of the trip, including war tax, sleeping accommodations and breakfasts in Duluth, will be $80. The only additional expense will be luncheons and dinners at Duluth during the three days of the meeting. Reservations may be made on application to Mr. James Minnick, superintendent of the Chicago Tuberculosis Institute, 8 South Dearborn Street, Chicago.

Recommendations Regarding Yale School of Medicine.—After a study of a survey and report as to the School of Medicine of Yale University, Dr. Fred T. Murphy presented his views to the committee on educational policy, which unanimously recommended the following minutes which have been adopted by the corporation:

1. That there is a clear and definite opportunity and obligation of the university to medical education.
2. That the Yale School of Medicine has a valuable nucleus of men and material and sound traditions, which righly justify the development of an institution for medical education of the highest type.
3. That the corporation accept as a policy the development of a medical school of the highest type to include the pre-clinical and clinical years of instruction upon such principles of medical education as may be approved by the corporation, after conference with the medical faculty.
4. That every effort be made to obtain at the earliest possible date the necessary funds with which to expand and develop the buildings, the equipment, the instruction, and the research, and the service, in accordance with the best ideals of modern medical education—as an essential unit of our university plan for development.

A Modern Almanac.—The Miners' Safety and Health Almanac for 1920 (Miners' Circular 26), compiled by the U. S. Public Health Service, has just been issued by the Bureau of Mines of the Department of the Interior. This is the second year that the Bureau of Mines has issued this calendar. In addition to the usual information, it contains instructions on the prevention of various diseases and accidents, and shows the miner how he can reduce the risks of his occupation. He is told that sickness means loss of time and money, and that it may mean reduced efficiency or permanent incapacity. There are special articles on influenza and pneumonia, miners' consumption, miners' nystagmus, contagious diseases among children, prevention of coal dust explosions, malaria, flies, typhoid fever, pure drinking water, school inspection, adenoids, "patent medicines," venereal diseases, sanitary housing, dust and ventilation in mines, mine gases and sanitary privies. The reader is advised that "patent medicines" are unnecessary, useless and a waste of money; that frequent and routine physical examinations are a good thing; that clean drinking water is just as essential as clean food, clean air or clean homes. The booklet is copiously illustrated and well printed. Thus the almanac, formerly a medium for the dissemination of misinformation regarding "patent medicines," has become also a worthy agency in providing accurate information on the prevention of accidents and disease.

Botulism from Eating Ripe Olives in Memphis

Newspapers of February 8 reported deaths following the eating of ripe olives, this time in Memphis, Tenn. Previous deaths occurred in Canton, Ohio, Detroit and New York, and have been reported in THE JOURNAL. THE JOURNAL asked Dr. B. W. Fontaine, associate professor of medicine in the Memphis Medical College, for an account of these cases. He telegraphs the following report:

"Thursday afternoon, February 5, at a luncheon given by a weekly social club at the home of Mrs. M. V., there were three guests, the hostess and a 10 year old boy. Later on the husband of the hostess and the husband of another guest joined the party, making seven in all, each person partaking of the refreshments. The first illness, the case of Mrs. H., began ten to twelve hours later, death occurring some time Friday morning, Mrs. H. being found dead in bed at 8:30 a. m. The next death was the hostess, Mrs. V. on Saturday morning at 5 a. m.; the third death, another woman, Saturday afternoon; the fourth, the husband of Mrs. V., Saturday afternoon; the fifth, another guest, Sunday morning; the sixth, the 10 year old boy, Sunday afternoon. The last guest is now seriously ill and is not expected to survive, making six deaths and the seventh case probably fatal. The initial symptoms were referred chiefly to the throat and eyes; the most noticeable symptoms were sensations of constriction about the throat and inability to swallow. Double vision soon occurred in all the cases and was finally followed by blindness. No gastro-intestinal symptoms occurred, except in the case of the boy, who was slightly nauseated. In all of the cases respiration was extremely labored and the pulse was very fast. Prostration was extreme, the temperature was subnormal. All of the patients were entirely conscious to the time of death. Necropsies were not permitted.

"Investigation by the health department discloses the fact that the menu at the luncheon consisted mainly of ham sandwiches, lettuce salad and whole ripe olives. No alcoholic liquors were drunk. Investigation of the jar from which the olives were taken showed that it had contained about fifty olives. Nine olives were found in a dish on the table. It is estimated that each guest must have eaten from four to six olives. The olives were of ripe variety, packed by the cold process in brine and were in a glass jar, having a tin top with a rubber seal under the cap, bearing the number 3X3602, put on by a rubber stamp. Just below the top, around the neck was a paper band, bearing the word 'Jumbo.' On the main label, just below the band were the words: 'Supreme Curtis Olives Corporation, Los Angeles, U. S. A.' In the middle of the label, in large type were the words: 'Curtis quality, 16 ounces net' and a picture of three or four large black olives. The olives found in a dish on the table had a very objectionable and pronounced foul odor. In the kitchen, on the drain-board was found the empty jar containing about twelve drops of the brine, which also gave the same disagreeable odor. The olives were obtained from a store in Memphis of which the principal business is buying and selling salvaged merchandise. The olives were transported by the firm from one of their branch houses in Montgomery, Ala. Investigation reveals that many cases of the same brand of olives were sold by this house. Ten or twelve jars were still unsold, which had finally reached Memphis. Examination of the olives by the city chemist and bacteriologist showed them to be soft and black and to have been preserved in brine. The contents of the other jars, similar to the jar in question, and put up by the same company, bearing the same label and packing number were without odor and wholesome so far as gross appearance was concerned.

"Bacteriological studies in the limited time, necessarily being hurried and incomplete, have revealed an anaerobic motile bacillus, gram positive, morphologically and culturally identical with *Bacillus botulinus*. Injection of the original brine in minute quantity, about one hundredth of a cubic centimeter subcutaneously, into a guinea-pig resulted in death in nine hours, with symptoms of labored respiration, ruffling of the hair and dilatation of the pupils, the four feet outstretched."

FOREIGN

Mortality of Lisbon.—It is stated from Lisbon that the mortality for the year 1918 exceeded that of any previous year. The number of deaths was 17,071 or 5,543 more than the previous year. The number of deaths caused by the influenza was 3,692; seven deaths were due to typhus fever. No mention is made of the death rate.

Prize for Orthopedic Research.—The Rizzoli Orthopedic Institute at Bologna, Italy, announces that the competing articles or appliances sent in to compete for the Umberto I prize of 3,500 lire must be in the hands of the president of the institute before Dec. 31, 1920. The prize is awarded for the best work or invention in the field of orthopedics and competition is open to physicians of all countries. The provisions for the competition will be sent on demand. Address the President, Instituto ortopedico Rizzoli, Bologna, Italy.

Surgeons Form Association.—Surgeons representing the surgical staffs of all the great teaching hospitals of Great Britain assembled in London, January 8, under the chairmanship of Sir Rickman J. Godlee, London, and organized the "Association of Surgeons of Great Britain and Ireland," thus following the precedent set by members of the medical staffs several years ago. The association will be representative of British surgeons, will represent British interests at international surgical congresses and will foster scientific meetings of surgeons from time to time at various centers. Sir John Bland-Sutton, London, was elected president of the association.

Physiology at the Paris Aviation Show.—The sixth Salon de l'aéronautique, which was held at Paris the last week in December, was a striking demonstration of the progress in the medical side of aviation since the last Salon in 1913. Two sections were devoted to physiology; one more especially civilian and aeronautical, the other essentially military and devoted to the study of aviation in general. It had six subsections showing the general examination of the candidate for aviation, the examination of the nervous system and the senses, a full display being made of the instruments and apparatus used in the various tests. Among the exhibits in the subsection for examination of circulation and respiration were much enlarged photographs of the blood pressure and pulse curves showing the effect of fatigue on athletes and aviators. The various devices for studying and overcoming the effect of rarefaction of the air included Dr. Garsaux's automatic oxygen inhaler. This supplies 35 liters an hour per person, and automatically increases this supply progressively up to 150 liters at 8,000 feet. The Salon exhibited further data showing that there are now fourteen companies of aerial navigation in France and that between May and November, 1919, they had a record of 1,079 voyages, covering 442,180 kilometers and carrying 1,356 passengers, without the loss of a single person. The organizers of this physiology exhibit were Dr. Crouzon, a leader in the medical features of aviation, and Dr. M. de Fossey, who is styled by the *Journal de médecine de Bordeaux*, in its report of the exposition, "the *cheville ouvrière* of this remarkable medical exposition."

LATIN AMERICA

Quarantine Against New Orleans Lifted.—It is stated from El Salvador that the quarantine affecting all ships from New Orleans has been lifted.

Dr. Lefás Goes to Paraguay.—Dr. Emmanuel Lefás, of Paris, has accepted the chair of pathology in the school of medicine of Paraguay, and will arrive in Paraguay about the middle of February.

Personal.—Dr. B. K. Ashford, Col., M C., U. S. Army, of Porto Rico, has been visiting in Cuba. Sessions in his honor have been held by the Association of the Medical Press of Cuba and the Society of Clinical Studies.

New Nurses' School at Nicaragua.—Dr. Luis Sequeira, of Bluefields, Nicaragua, is about to establish a school for nurses in that city. There will be only twelve pupils admitted at first and teaching will be free of charge.

Election of Officers.—The Sociedade Brazileira de Neurologia, Psychiatria e Medicina Legal recently elected its officers for the new year: president, Prof. J. Moreira; vice president, Prof. Abreu Fialho, and secretary-general, Dr. M. Pinheiro.

Medical Students in Cuba.—The number of students enrolled in the School of Medicine and Pharmacy of the University of Havana during the year 1919-1920 is 1,560, distributed as follows: medicine, 1,037; pharmacy, 312; dentistry, 170; veterinary 41.

Deaths in the Profession.—Dr. **Horacio Rodríguez,** aged 36, was the first victim in the profession to succumb to typhus during the prevailing epidemic of typhus at Valparaiso, Chile. He was connected with the Asistencia Pública, in direct charge of typhus patients, and leaves a widow and two children.

Health Certificates for Colombian Travelers.—The office of public health of Colombia has issued regulations decreeing that passengers traveling on outbound ships must be provided with a physician's certificate to the effect that they are not suffering from any contagious disease.

Medical Society of Caracas.—At a recent meeting held by the medical society of Caracas the following officers were elected: president, Dr. J. Sanabria Bruzual; vice president, Dr. B. Perdomo Hurtado; treasurer, Dr. Andrés Pietri; secretary, Dr. Jiménez Rivero; librarian, Dr. Salvador Quintero, and editor of the journal, Dr. Salvador Córdova.

New Leprosarium.—A model leper hospital, equipped to accommodate several hundred patients of both sexes and all ages, is being built some distance outside the city of São Paulo. Well appointed laboratories will be established within the hospital to conduct research on the disease. The leper colony will have all the facilities pertaining to an independent community, including police and fire departments, light and water services, cemetery, and postal and telegraph offices.

Government Services

Major Phelan Receives Special Appointment

Major Henry du R. Phelan, U. S. Army, has been appointed representative of the Historical Branch, General Staff, U. S. Army, as liaison officer between the French and American historical sections and attached to the American Embassy, Paris.

What the Government is Doing for the Disabled in War

According to the Federal Board for Vocational Training the status of those who were disabled in the world war is as follows: in tuberculosis sanatoriums, 46,000; in hospitals for treatment, 18,000; in asylums, 19,000; taking vocational training, 27,912, and 5,000 refused government training, making a total of 115,000. In addition there are about 200,000 men who are only slightly disabled.

A Lapel Button for Members of the Officers Reserve Corps

A circular, issued by the War Department, January 17, states that a lapel button for members of the Officers' Reserve Corps has been approved, optional for wear on civilian clothes only. The button is of gold, one-half inch in diameter with the face enameled in the color of the facing of the arm or corps of the service. It has the letters U. S. R. in the center. The button is to be issued by the Quartermaster's Department.

Influenza in Naval Stations

The *Naval Medical Bulletin*, issued to medical officers of the United States Navy, reports mild epidemics of influenza at the Great Lakes Station, and also in the Marine Barracks at Quantico, Va. The type of the disease is reported to be the same as last year, but not so virulent. A few cases have occurred at Gulfport, Miss., and at Charleston, S. C. Special attention is invited to the importance of placing the sick under treatment at once and modifying the routine, if necessary, so that the well may avoid unnecessarily close contact with each other, overexposure to cold and wet and fatigue.

Medical Corps Section of Army Relief

A campaign for a new membership in the Medical Corps Section of the Army Relief Society is under way. The object of the society is the relief and education of widows and orphans of enlisted men of the regular army and it is requested that all members of the Medical Corps or some member of their family become members of the organization

The dues are $1 a year. Application may be made to Mrs. Merritte W. Ireland, the Wyoming, Washington, D. C., or Mrs. M. A. Delaney, the Northumberland, Washington, D. C.

Government Needs Physicians

The United States Civil Service Commission announces that a number of physicians are needed in the Indian Service, the United States Public Health Service, the Coast and Geodetic Survey and the Panama Canal Service. Both men and women are eligible, salaries of $200 a month are offered with prospective promotion and higher pay. Information and application blanks will be obtained from the commission at Washington, D. C., or the civil service board at any of the principal cities in the United States.

Care of Discharged Soldiers

Over 10,000 discharged, disabled soldiers were undergoing treatment in Public Health Service hospitals, or under contract with private hospitals, during January, according to tabulated returns. The number of applicants for treatment under the war risk act is constantly increasing, as the men become familiar with the fact that they are entitled to free treatment. The United States Public Health Service is now operating forty-three hospitals for the care of discharged, disabled soldiers, sailors, marines and war nurses, who are beneficiaries of the War Risk Insurance Act.

Army Turns Over Hospital Equipment to Fight Epidemic

The Secretary of War has been permitted to turn over to the State of Kansas emergency hospital equipment of the army to check the present influenza epidemic in that state. The Senate moved with unusual speed on this resolution, which was passed the day it was introduced. Senator Curtis and Governor Allen of Kansas asserted that the Topeka High School has been converted into a temporary hospital and that 150 influenza patients are being treated there. Similar conditions exist in many of the Kansas state institutions. This is the first instance where state government officials have asked for emergency relief from the War Department.

Medical Veterans of the World War

Col. Frederick F. Russell, M. C., U. S. Army, secretary of the Medical Veterans of the World War, states that during January, 143 new members joined, making a total membership of 2,542, divided as follows:

Medical Corps, U. S. Army	1,116
Medical Corps, U. S. Navy	46
Medical Corps, U. S. P. H. S.	59
Contract Surgeons, U. S. Army	85
Acting Assistant Surgeons, U. S. P. H. S.	44
Members Local Board	512
Members Examiner, Local Board	174
Members Medical Advisory Board	506

Army Hospitals in Operation

On January 9, fourteen army hospitals were in operation with 14,370 bed patients, distributed as follows:

U. S. General Hospital No. 28, Fort Sheridan, 2,800; Walter Reed General Hospital, Takoma Park, D. C., 1,675; U. S. General Hospital No. 2, Fort McHenry, Md., 1,447; Letterman General Hospital, Presidio, San Francisco, 1,245; U. S. General Hospital No. 41, Fox Hills, N. Y., 1,518; U. S. General Hospital No. 21, Denver, Colo, 1,088; U. S. General Hospital No. 6, Fort McPherson, Ga., 914; U. S. General Hospital No. 19, Oteen, N. C., 887; U. S. General Hospital, Fort Bayard, N M., 698; Base Hospital, Fort Sam Houston, Texas, 713; U. S. General Hospital No. 31, Carlisle, Pa., 560. U. S. General Hospital No. 43, Hampton, Va., 319; U. S. General Hospital No. 20, Whipple Barracks, Ariz., 351; Army and Navy General Hospital, Hot Springs, Ark., 155.

U. S. General Hospital No. 20, Whipple Barracks, Ariz., and No. 43, Hampton, Va., will be closed February 15, and such patients as require further treatment will be transferred to other hospitals.

Neurosurgical Unit in Richmond

It is announced that Richmond, Va., has been selected as the place of the fourth district, embracing Virginia, Maryland, District of Columbia and West Virginia, in which a neurosurgical unit is to be established to treat and care for veterans of the world war suffering from injuries of the brain, spinal cord and nerves. Arrangements have been made to give treatments at Memorial Hospital, Richmond, and the Retreat for the Sick. The personnel of the unit includes Drs. Claude C. Coleman, Paul V. Anderson and John H. Baird, all of Richmond; Dr. William F. Mercer, Richmond, will have charge of all cases of diseases of eye, ear, nose and throat; Asst. Surg. Clavel T. Wilfong, U. S. P. H. S., will treat all office cases discharged from hospitals in Richmond, and all cases sent through hospitals in Richmond will be under the care of Dr. William R. Jones, Richmond.

Legislation for Care of Mental and Nervous Diseases in Men of Army and Navy

A bill has been introduced by Congressman Edward J. King, of Illinois, "to provide for the segregation and care of men in the Army and Navy afflicted with mental and nervous diseases." The bill provides for the appointment of a Board of Sanitarium Commissioners to be composed of five medical officers in the Army and Navy. The board is authorized to select and purchase a site and erect a hospital thereon for the care and treatment of soldiers and sailors afflicted with mental or nervous diseases. At present men suffering from these disorders are confined at the Saint Elizabeth Insane Hospital in the District of Columbia and other similar government institutions for the insane. The purpose of this legislation is to care for these men at a separate institution where their maladies may be given special treatment and where the sufferers will not be placed in the distressful environment of an insane hospital, as is now the practice. It is understood that the bill was introduced at the request of the American Legion. Senator McKellar, of Tennessee, has introduced the same bill in the Senate.

The Discharged Soldier's Problem

The United States Public Health Service is making wide advertisement of the channels through which a discharged soldier may receive treatment at the hands of the Public Health Service to which he is entitled as beneficiary of the Bureau of War Risk Insurance. He may obtain treatment through: 1. Application to the examiner of the Public Health Service in the soldier's locality on presentation of an honorable discharge as evidence of his right to such treatment. The examiner will examine him, treat him, and make provision for necessary hospital care and will also instruct him in making out the necessary forms to be forwarded to the Bureau of War Risk Insurance and to the Federal Board for Vocational Education. 2. Application to the Bureau of War Risk Insurance by letter, requesting examination and treatment. The bureau notifies the district supervisor who in turn notifies the patient to report to an examiner, giving the examiner's name and address and issuing transportation for travel when necessary. 3. Application to the American Red Cross, the American Legion, county or state board of health, or to welfare organizations who will either direct him to the nearest examiner of the service or will take up his case with the district supervisor.

Health Conditions of the Army

For the week ending January 30 the admission rate for disease was considerably greater than for the previous week, because of the rise of the influenza epidemic. Influenza patients are being kept in the hospital until all symptoms of the disease have disappeared and the possibility of pneumonia following has been guarded against. This period is at least ten days after the temperature has become normal. For this reason the noneffective rate of the Army is very high. The increase in the number of new cases of influenza concerns not only the home forces, but also the American forces in Germany and in Siberia.

It is noted that the present epidemic of influenza in the United States is not as severe in type as that which occurred in 1918. For comparison, the figures from Camp Grant, Ill., are cited: This camp had a most pronounced epidemic, both in 1918 and in the present year. At the time of highest incidence in 1918, one person out of every 4.28 contracted influenza, whereas in the present epidemic, one person out of 11.4 contracted the disease. In 1918 one of each 16.86 contracted pneumonia; this year one of 141.61. In the 1918 epidemic, one person of 47.62 died; this year, one of 399.01 died.

Foreign Correspondence

PARIS

Jan. 8, 1920.

The Camphor Scarcity

The embargo placed on camphor by the Japanese government, which seek to make Japan the sole source of supply for the crude gum, has given impetus to the manufacture of synthetic camphor. This scarcity of crude camphor, which is reaching an acute stage and threatens to stop the preparation of pure gum in American laboratories, has caused manufacturers in the United States to make an effort to establish a laboratory for the manufacture of synthetic camphor which would produce sufficient quantities of camphor to supply the needs of their industries. Also at Segni, Italy, a laboratory for the manufacture of synthetic camphor has recently been established, and a similar enterprise is about to be launched in France.

Since oil of turpentine can be secured very cheaply by the distillation of resinous woods, it is easy to produce synthetic camphor at a reasonable price. In all cases in which a hydrocarbon is to be used in the manufacture of synthetic camphor, oil of turpentine proves the most available. It happens that France is a large producer of oil of turpentine, and it is possible to increase still further our pine forests—the seaside pine in the western part of France and the Aleppo pine in the Southeast and in Algeria. The Comité interministériel des plantes médicinales, in collaboration with the Office des matières premières, is engaged at the present time in collecting information on the subject of the manufacture of synthetic camphor, and in the near future it proposes to call a meeting of technicians and manufacturers with a view to taking immediately the necessary steps to assure to France, as soon as possible, its normal supply.

But it is to be hoped that the natural camphor may keep its place alongside the synthetic product, the manufacture of which is furthered by the existing circumstances. In this connection it may be well to mention that the camphor laurel grows naturally in some of our colonies, notably in Tonkin (Indo-China), and also in Algeria, where the camphor produced from the leaves is identical with that produced from the same kind of trees in Japan.

Reorganization of the Municipal Chemical Laboratory

The municipal council of Paris is considering the interesting proposition of reorganizing the municipal chemical laboratory. The purpose of this laboratory when originally founded in 1878 was to protect the public against fraudulent adulteration of wines, but the principal function of the laboratory at this time would be the suppression of frauds in general. The plan is to make of it a center of scientific study.

Opposition to Paid Courses of Medical Instruction

Contrary to the current practice in Germany, where university professors often give paid courses of instruction, this custom has not been accepted in this country and has been at times severely criticized; for example, the paid graduate medical course organized by Dr. de Lapersonne, professor of clinical ophthalmology of the Faculté de médecine de Paris, has recently been quite severely criticized by "A Reader" in the *Journal des Praticiens:*

"I admit that an eminent physician who is known by his writings, his researches, or his skill in teaching, and being duly authorized, may announce paid courses of instruction. The poor man who has no private fortune, as is so often the case, cannot spend his time without compensation. He may not receive the 15,000 francs of a regular professor, which he needs to support himself and family; but that a regular professor of the Faculté de médecine de Paris should require fees of his students surpasses all belief, and we cannot protest too vigorously against such tendencies, which threaten to become general."

Exhibit of French Pharmaceutical Products in Canada

M. Beaubien, Canadian senator, recently paid a visit to the Comité Français des Expositions à l'étranger, and during the course of his visit suggested a plan by which French interests in Canada might be served, namely, by an exhibit of French products. But, as the distances between the cities of Canada are very great, he suggested that the exhibit be put on wheels, explaining that, in a train of eight coaches, samples of all French products, and more particularly, pharmaceutical products, might be exhibited. Two coaches might be placed at the disposal of the representatives of the exhibitors. This traveling exhibit may be taken through all of Canada, remaining from two days to a week in various cities, according to their importance. Moving pictures would accompany the exhibit.

Preferential Milk Tickets for Prospective Mothers

At the suggestion of Professor Pinard, the prefect of the department of the Seine has sent out instructions to the maires of twenty arrondissements of Paris, relative to supplying prospective mothers with preferential milk tickets. These tickets will be issued on presentation of a certificate, signed by an obstetric nurse of any of the Paris hospitals and setting forth the necessity of a milk diet, the quantity of milk needed daily, and the duration of the regimen.

Tuberculosis in the Regions of France Evacuated by the Germans

Dr. Calmette, assistant director of the Institut Pasteur de Paris, who, in his capacity of director of the Institut Pasteur de Lille, has been conducting an inquiry into the state of the public health of Lille during the years of German occupation, has recently communicated the sad results of his investigation. He thinks the ravages of tuberculosis, both glandular and pulmonary, in the countries of the North were due to the restrictive diet to which the children were subjected during the period of occupation. Tuberculous children who have been sent out into the country or to the seaside have improved remarkably. Calmette recommends that such therapeutic treatment be continued and that all schoolchildren be examined carefully from time to time. He also advises the establishment of antituberculosis dispensaries for adults. Calmette adds that the appeals of Germans in favor of German children who are suffering in great number must not allow us to forget the lamentable consequences of the inhuman conduct the Germans showed, during the long period of occupation, toward our own children.

History of Medicine and Pharmacy

At the last meeting of the Société française d'histoire de la médecine it was decided to hold a congress of the history of medicine and pharmacy at Antwerp, Aug. 7-12, 1920, coincident with the kermess and the celebration of the Olympian games. The principal subjects thus far selected for discussion are: Medical iconography and epigraphy; a chapter from the history of welfare movements in various countries; medical bibliography; monastic and collegial medicine in Belgium, and the mobiliary equipment of apothecaries.

LONDON

Jan. 22, 1920.

The Prevention of Influenza

In view of the possibility of another epidemic of influenza this winter, the ministry of health has been studying the measures to limit its incidence and mortality, and has revised a memorandum previously issued on the subject. The difficulty of securing a continuous record of true influenza has made it impossible to forcast with any confidence the arrival of the next wave. We do not yet know the nature of the virus, and the laboratory has not yet furnished a specific form of treatment or prevention. Pfeiffer's bacillus cannot be regarded as the essential causative organism, but for present purposes is looked on as an important secondary or coincident agent responsible for many of the fatal complications. As infection is conveyed by coughing, sneezing and even loud talking, overcrowding should be avoided. The evidence collected by the ministry shows that acute and temporary overcrowding in trains, cars and places of entertainment is more important than overcrowding in the home. Personal protection includes good ventilation, good food, gargling the throat and douching the nose with 1:5,000 potassium permanganate. Face masks are advised for those attending the sick, but not for the public. As regards vaccines, it is laid down that since we are uncertain of the primary cause, no form of inoculation can be guaranteed to lessen materially the incidence of the disease. Vaccines may, however, lessen the dangers of complications. Drugs are of little avail. When attacked, the patient should take to bed. A standard polyvalent vaccine prepared from strains of Pfeiffer's bacillus, pneumococcus and streptococcus appears to reduce materially the liability to complications and the risk of death. Therefore, it should not be neglected. The bacteriologists of the Medical Research Committee believe that in the previous government vaccine the proportion of Pfeiffer's bacillus was too small, and that better results might follow the use of a vaccine in which this microbe forms the dominant constituent and of which a much larger

dose is given. The ministry has accordingly made arrangements for the preparation of a considerable quantity of prophylactic vaccine made from the new formula. This will be issued in bottles of 25 c.c. each to health officers for distribution on demand, and free of charge to physicians, who will be expected not to charge their patients for the vaccine used. It is further proposed to arrange for the preparation of vaccines in selected localities from the strains of microbes associated with local cases of influenza. The prevention by quarantine of the importation from abroad is regarded as impracticable. Health authorities should distribute information to the public by leaflets, posters, notices and lectures. In Sheffield during the last epidemic a "pool" of unattached physicians was formed with good results, their services being placed at the disposal of physicians as required. In the larger areas, part of such a pool might be formed from the health authorities' own staffs.

Increased Remuneration for Panel Physicians

The increase in the cost of living in this country since the war has amounted to more than 100 per cent. and has led to demands for increased wages in practically every calling. As reported in The Journal, physicians have increased their fees by 50 per cent. The panel physicians demanded from the government an increase of the capitation fee from $2 to $3.25. A deputation of the Insurance Acts Committee of the British Medical Association was received on the subject by the minister of health, Dr. Addison. He offered to seek the authority of Parliament to pay an increased fee of $2.75, with a mileage fund of $1,500,000 for rural physicians. The deputation said that it would feel bound to its constituents not to accept this, but it was empowered to ask for arbitration, which it did. After discussion, the minister announced that the government would accede to this request. The arbitrators' award will operate from April 1, the government agreeing to pay in the meantime a capitation fee of $2.75 The government reserved its freedom to institute at a subsequent date any inquiry that might be thought desirable, in the light of the award and the cost of its working, into the question whether service as good or better could be secured with the same or less expenditure of money, under some other system.

As a result, no doubt, of this increase the government has decided to increase by 6 cents the weekly contributions paid, of which 4 cents will fall on the employer and 2 cents on the employed person. The rate of sickness benefit is to be increased to $3.75 a week in the case of men and $3 in the case of women. Maternity benefit is to be increased from $7.50 to $10. Sanatorium benefit is to be removed from the acts, the treatment (other than domiciliary) of tuberculosis, among both the insured and the uninsured, being recognized as falling within the province of the local authorities. A state system of medical referees is to be established, toward which the societies will make a small contribution by way of payment for each case referred.

New Hospital for Tropical Diseases in London

The study of tropical diseases in London originated in the Seamen's Hospital at Greenwich, where sailors suffering from tropical diseases are received from all parts of the world. A branch hospital for tropical diseases, containing thirty beds, was established in the East End of London, at the Albert Docks. Among the patients are Europeans of all nations, Asiatics, Africans, West Indians and natives of British and other colonies. A laboratory was built in connection with the hospital, and more than 2,000 physicians were trained in the study of tropical diseases. But the accommodation became inadequate. In the "University Quarter" of London, at Endsleigh Gardens, a hospital established for officers during the war was therefore secured. In this much more central and accessible position the several departments of the London School of Tropical Medicine will be housed. The riverside wards will be retained for patients who, for various reasons, should not be taken to the new hospital. But hundreds of cases of tropical disease in the chronic stage will be available for study in the latter.

Death of Sir Thomas Frazer

Sir Thomas Frazer, M.D., F.R.S., emeritus professor of materia medica and clinical medicine in the University of Edinburgh, one of the most distinguished investigators of his time, who did much in laying the foundations of modern pharmacology and therapeutics, has passed away at the age of 79. Born in Calcutta of Scotch parentage, he was educated in Edinburgh. On graduation he obtained a gold medal for his thesis on the action and uses of Calabar bean (*Physostigma venenosum*). He was appointed assistant to the celebrated Sir Robert Christison in the materia medica department of the University of Edinburgh and, like him, he became a great authority on poisons. Among his earlier papers, which have become classical, were "The Antagonism Between the Actions of Physostigma and Atropia," and "The Kombé Arrow Poison" (*Strophanthus hispidus*). On the resignation of Sir Robert Christison in 1877, he was appointed professor of materia medica in the University of Edinburgh. He was also appointed physician to the Royal Infirmary, and as a clinician attained the first rank. In conjunction with Prof. Crum Brown, he made an important investigation into the chemical constitution and physiologic action of poisons, for which the Royal Society of Edinburgh awarded them a prize. It was mainly through his investigations that strophanthus came into use in therapeutics. Some of his best known work was on snake poison. His original observations, made individually or in association with Major Elliot, continued the investigations of Lauder Brunton and Joseph Fayrer on cobra poisoning. Much of our knowledge of the effect on cardiac action of cobra venom is due to his work. When, in 1894, Calmette published his researches into the immunity against snake venom that followed repeated injections of small doses of rattlesnake poison, Frazer, who had already gone over the same ground, gave valuable confirmation to Calmette's work, as well as further points as to the nature of the protective action of the antitoxic serum. Other original work of the first importance emanating from him was on the salicyl compounds in acute rheumatism, the nitrites in the dyspnea of asthma and bronchitis, bone marrow in pernicious anemia, opium, morphin and codein in diabetes, and potassium bichromate in gastric affections. He was one of the first, if not the first, to teach the expression of dosage in terms of body weight and to analyze pharmacologic action into its component parts. All his work was characterized by accuracy and thoroughness. In 1894 he delivered the graduation address at the University of Edinburgh in which he uttered a warning that has been needed ever since and is still needed: He pointed out that recent advances in organic chemistry had led to the discovery of a host of complex substances with possible pharmacologic actions which afforded a great opportunity to charlatanism. He considered that physicians as well as commercial chemists were advocating for all sorts of disease the employment of drugs to which no proper trial could be given. The determination of the physiologic action of any substance might require at least six months' study by a skilled investigator. Like many of the leaders of the profession, he suffered badly in the war. He lost one son on submarine service, and another, as well as a son-in-law, in France. One of his sons is a well-known New York physician and is at present with the American army on the Rhine.

Marriages

Dwight Chase Sigworth, Lieut., M. C., U. S. Army, Stanton, Neb., on duty at Alcatraz Barracks, Calif., to Miss Irene L. Cratty of Elgin, Neb., at Long Beach, Calif., February 14.

Henry Bloodgett McInryre, Lieut.-Col., M. C., U. S. Army, New York City, on duty at Fort McHenry, to Miss Gladys E. Miller at Mamaroneck, N. Y., January 31.

Edward Franklin Younger, Lynchburg, Va., to Miss Bessie Mason of Campbell County, Va., in Washington, D. C., December 15.

Thomas Wister Edmunds, Danville, Va., to Mrs. Sallie Davis Penn of Reidsville, N. C., in Baltimore, December 20.

Clarence Walter Adams, Visalia, Calif., to Miss Marie Genevieve Rogers of Spokane, Wash., December 15.

Charles Lyndon Outland, Tarboro, N. C., to Miss Alice Louise Sadler of Richmond, January 21.

Harry Emmick Lee, Detroit, to Miss Jamie Florence Greenlee of Studley, Va., December 31.

Dr. Benjamin F. Davis, Chicago, to Miss Marie Lucille Brickson, Stoughton, Wis., February 7.

Clarendon Rutherford to Miss Ella Williams McCauley, both of Chicago, February 4.

Harry S. Berman, Detroit, to Miss Caroline Block of Richmond, December 23.

Milo Kirk Miller to Miss Freda Anita Stracke, both of Chicago, January 10.

Deaths

Elmer Ernest Southard ✠ Cambridge, Mass.; Harvard University Medical School, 1901; aged 43; chairman of the Section on Nervous and Mental Diseases of the American Medical Association; died in New York City, February 8, after two days' illness from pneumonia. He was born in Boston and was graduated in arts and in medicine by Harvard University. He later studied at Senckenberg Institute, Frankfort on the Main, and in the University of Heidelberg. On his return to the United States he became instructor in neuropathology in his alma mater; later assistant professor, and since 1909 Bullard professor of neuropathology. He was assistant visiting pathologist to the Boston City Hospital in 1904 and 1905; assistant physician and pathologist of the Danvers (Mass.) State Hospital from 1906 to 1909; pathologist of the Massachusetts Commission on Mental Diseases in 1909, and director of the Boston Psychopathic Hospital since 1912. He was a director of the Eugenic Record Office, Cold Spring Harbor, N. Y.; a member of the board of scientific directors of the Bedford Hills Laboratory, Bureau of Social Hygiene, New York; a director of the Massachusetts State Psychiatric Institute, and member of the editorial board of the *Archives of Neurology and Psychiatry*. During the war Dr. Southard was director of the U. S. Army Neuropsychiatric Training School, Boston unit, and major in the Chemical Warfare Service. He had devoted particular attention to the pathology of the brain and nervous system in dementia praecox, and published important original investigations on this subject. He also advanced an original classification of the psychoses which had aroused considerable interest. His most recent publication is a large volume on shell-shock and other neuropsychiatric problems, an epitome of war neurology. In his death the medical profession loses a specialist of broad vision, a clinician who was preeminently a neuropathologist with broad training and insight into the problems of general medicine.

Sir James Alexander Grant, K.C.M.G., one of the most distinguished physicians of Canada; died, February 6, at his home in Ottawa, aged 89. He was born in Inverness, Scotland, Aug. 11, 1831, was graduated from McGill University in 1854, and obtained the degrees of M.R.C.P., M.R.C.S. (Eng.) and in 1864 the F.R.C.S. (Edin.). A year before his graduation he passed the examination of the College of Physicians and Surgeons of Quebec, and after graduation located in Ottawa. He was a member of the Provincial Medical Council from 1866 to 1869, and its president in 1868-1869. He was a member of parliament from the council of Russell in 1867, and later from Ottawa City, serving altogether fourteen years. He was made president of the Canada Medical Association in 1874; president of the Royal Society of Canada in 1903; vice president of the International Medical Congress in 1887; was president of the General Hospital, Ottawa, and chief of staff for twenty-five years. In 1887 he was made Knight Commander of Sts. Michael and George, and in 1910 was given the freedom of the city of Inverness. He was an active and honorary member of many scientific societies, and of late years had devoted much of his time to geology.

John Abner Mead, Rutland, Vt.; College of Physicians and Surgeons in the City of New York, 1868; aged 78; a veteran of the Civil War; for several years assistant physician at the Insane Hospital, Flatbush, L. I.; surgeon-general of Vermont in 1878 and 1879; first mayor of Rutland; a member of the state senate in 1892 and of the house of representatives in 1906; lieutenant-governor of Vermont in 1908-1909, and governor from 1910 to 1912; died, January 12, from pleuropneumonia.

Emil Augustus Herig, Saginaw, Mich.; University of Berlin, Germany, 1866; aged 79; formerly president of the board of health, health officer and city physician of Saginaw; coroner of Saginaw County; chief of staff of the Bliss Hospital, Saginaw, and attending physician to the Saginaw General Hospital; once president of the Saginaw Valley Medical College; a veteran of the war between Prussia and Austria in 1866; died, January 21.

Robert William Carter, Montclair, N. J.; College of Physicians and Surgeons in the City of New York, 1904; aged 44; who went to the Philippines as a missionary of the Presbyterian Board at Dumaguete Maasin and Albay; was invalided home, ill with tropical sprue in 1913; returned to Dumaguete in 1917, and two years later was transferred home; died in the Presbyterian Hospital, New York City, November 21, from sprue.

Julius Stimpson Clark, Melrose, Mass.; Georgetown University, Washington, D. C., 1869; aged 81; a veteran of the Civil War; a member of the Massachusetts Medical Society, and for seven years president of the Middlesex District Medical Society; from 1870 to 1878 health officer, city physician and police surgeon of New Orleans; president of the medical board of the Melrose Hospital; died, January 20, from pneumonia.

James Jefferson Johnson ✠ Braggs, Okla.; Memphis (Tenn.) Hospital Medical College, 1897; aged 43; a specialist on diseases of the eye, ear, nose and throat; who entered the Army in 1913, and was discharged as captain, M. R. C., July 10, 1919, and was then attached to the American Red Cross Commission to Siberia; died in Siberia, December 13, from typhus fever, and was buried at Irkutsk.

Frederick James Bowles ✠ New York City; University of the City of New York, 1884; aged 67; a member of the American Academy of Ophthalmology and Oto-Laryngology, and the New York Academy of Medicine; ophthalmologist, otologist and laryngologist to the Bloomingdale clinic; died in the Post-Graduate Hospital, New York City, January 28, from pneumonia.

William Lewis West, Indianapolis; Miami Medical College, Cincinnati, 1876; also a druggist; cashier and later president of the First National Bank of Oakland City, Ind.; president of the Farmers and Merchants National Bank, Fort Branch, Ind., and the Citizen's Bank and Trust Company of Princeton, Ind.; died, January 2, from heart disease.

R. K. Prewitt, Ackerman, Miss.; Kentucky School of Medicine, Louisville, 1882; aged 77; once president of the Choctaw County (Miss.) Medical Society and local surgeon for the Mobile, Jackson and Arkansas City Railroad; a Confederate veteran; representative in the legislature from Choctaw County in 1896; died, January 22.

Francis B. Nofsinger, Kansas City, Mo.; University of Nashville, Tenn., 1864; aged 82; surgeon in the United States Navy during the Civil War; who established the first packing house in Kansas City in 1859; postmaster from 1889 to 1893; county assessor and president of the city council; died, January 6, from cerebral hemorrhage.

Edward Grant Birge, Iowa City; Johns Hopkins University, Baltimore, 1907; aged 31; formerly instructor in the department of preventive medicine and hygiene in Harvard University Medical School, and later state epidemiologist of Iowa; captain, M. R. C., U. S. Army, and discharged, Aug. 10, 1919; died, February 4, from pneumonia.

Francis Alonzo Bailey, Hillsboro, Ore.; Willamette University, Salem, Ore., 1870; aged 80; a medical cadet in the Confederate Service during the Civil War; twice president of the Oregon State Medical Association; for several terms mayor of Hillsboro and a member of the city council; died, January 23, from pneumonia.

Edward William Spragge, Toronto; M.R.C.S. (Eng.), L.R.C.P. (Edin.), 1868; aged 76; also a licentiate of the Ontario College of Physicians and Surgeons in 1869; for than forty-seven years medical officer of the Toronto police force, and surgeon to the Canadian Pacific Railway Company; died, December 31.

Parker Lloyd Berge, Brainerd, Minn.; University of Minnesota, Minneapolis, 1913; aged 31; a member of the Minnesota State Medical Association; who as a lieutenant, M. C., U S. Army, was attached to the Aviation Corps for two years, and was discharged, July 7, 1919; died, January 22, from heart disease.

James Albert Rutledge ✠ Woodmen, Colo.; Rush Medical College, 1866; aged 58; formerly a practitioner of Elgin, Ill.; medical director and superintendent of the Modern Woodmen of America Sanatorium since 1911; a specialist in tuberculosis; died in a hospital in San Francisco, February 3, from influenza.

Tucker Henderson Frazer ✠ Mobile, Ala.; University of Alabama, Mobile, 1888; aged 60; dean and professor of obstetrics in his alma mater; head of the American Red Cross in Mobile during the world war; died in the Southern Infirmary, Mobile, January 26, four days after an operation for appendicitis.

James Elias Seay, Birmingham, Ala.; University and Bellevue Hospital Medical College, New York City, 1899; aged 41; a member of the Medical Association of the State

✠ Indicates "Fellow" of the American Medical Association.

of Alabama; surgeon to the Birmingham Southern Railroad; died, January 26, from cerebral hemorrhage.

Abraham Feldman, Hammonton, Calif.; College of Physicians and Surgeons, Los Angeles, 1916; aged 30; a member of the Medical Society of the State of California; lieutenant, U. S. N. R. F., and relieved from active duty, July 11, 1919; died, January 20, from pneumonia.

Theodore H. Swayne, Chihuahua, Mexico; Northwestern University Medical School, Chicago, 1895; aged 59; also a graduate of the Faculty of Mexico Medical School; for many years a practitioner of Chihuahua and local railway surgeon; died, January 9, from pneumonia.

George Victor Genzmer, Verona, N. J.; Albany (N. Y.) Medical College, 1913; aged 28; assistant surgeon, lieutenant, U. S. Navy, and on duty for two years at Pelham Bay Hospital, and relieved from active duty, Sept. 4, 1919; died, January 30, from pneumonia.

Charles Edward Treble, Toronto, Ont.; College of Physicians and Surgeons, Toronto, 1901; aged 43; in charge of the roentgen-ray department of the Wellesley Hospital; while making his rounds in Grace Hospital, October 29, died suddenly from heart disease.

Hudgins S. Ellis, Memphis, Tenn.; College of Physicians and Surgeons, Memphis, 1911; aged 36; a member of the Tennessee State Medical Association; died suddenly in St. Joseph's Hospital, Memphis, January 25, from acute dilatation of the heart.

Mary Frye Barry, Washington, D. C.; Northwestern University Woman's Medical School, Chicago, 1887; aged 60; for ten years a practitioner of Colorado, and once a member of the state legislature; died in Colorado Springs, Colo., December 8.

Harry Stoddard Clever, Tuscarawas, Ohio; University of Pittsburgh, 1897; aged 46; a member of the Ohio State Medical Association; health officer of Tuscarawas; died in Grant Hospital, Columbus, Ohio, January 20, from heart disease.

Charles O. Warner, Warsaw, Ill.; Washington University, St. Louis, 1863; aged 89; assistant surgeon of volunteers in the Army during the Civil War; for many years a member of the local school board; died, January 15, from bronchial asthma.

George R. Green, Muncie, Ind.; Medical College of Indiana, Indianapolis, 1878; aged 68; a member of the Indiana State Medical Association, and lecturer on history of medicine in the Indiana Medical College; died, January 24, from pneumonia.

Riley J. Drew, Alma Center, Wis.; Medical College of Indiana, Indianapolis, 1904; aged 45; a member of the State Medical Society of Wisconsin; died, December 28, in Sacred Heart Hospital, Eau Claire, Wis., from bronchial pneumonia.

Joseph Aurelius Young, Caldwell, Idaho; University of Illinois, Chicago, 1903; aged 41; was accidentally drowned, January 20, when his automobile slid off the ferry platform at Froman's ferry into the Snake River.

May Cushman Rice ✠ Chicago; Northwestern University Woman's Medical School, Chicago, 1896; aged 56; a specialist in roentgenology and electrotherapeutics; died, February 4, from pneumonia following influenza.

Sylvanus Joy, Tillsonburg, Ont.; University of the City of New York, 1854; Queens University, Kingston, Ont., 1857; aged 85; for forty-five years local surgeon for the Grand Trunk system; died, October 31.

Robert Kearns ✠ Middletown, N. Y.; College of Physicians and Surgeons in the City of New York, 1888; aged 54; a specialist in diseases of the ear, nose and throat; died, January 21, from septicemia.

Maurice Henry Miesse, Circleville, Ohio; College of Physicians and Surgeons in the City of New York, 1868; aged 76; a veteran of the Civil War; died, January 21, from cerebral hemorrhage.

John Eugene English, Baraboo, Wis.; Rush Medical College, 1883; aged 68; for thirty-seven years district surgeon for the Chicago and Northwestern system; died, January 24, from myocarditis.

Frank A. Sabin, Anna, Ill.; Berkshire Medical College, Pittsfield, Mass., 1861; aged 84; an honorary member of the Illinois State Medical Society; died, January 26, from arteriosclerosis

Robert Addison Stevenson, Toronto; McGill University, Montreal, 1871; aged 73; chairman of the staff and chief of the medical service of Grace Hospital, Toronto; died, November 12.

Thomas T. Zerbe, Schaefferstown, Pa.; University of Pennsylvania, Philadelphia, 1869; aged 74; for two terms a member of the state legislature; died, January 26, from cerebral hemorrhage.

Thomas Kelly Proctor, Sulphur Springs, Texas; University of Louisville, Ky., 1895; aged 60; a member of the State Medical Association of Texas; died last month, from carcinoma.

George Henry Albers, Cincinnati; Miami Medical College, Cincinnati, 1887; aged 57; a member of the Ohio State Medical Association; died, January 19, from cerebral hemorrhage.

John Schulze, Racine, Wis.; Bennett Eclectic Medical College, Chicago, 1894; aged 68; for more than half a century a druggist of Racine; died, January 26, from diabetes.

Edward E. Engel, St. Louis; Washington University, St. Louis, 1877; aged 66; for thirty-two years a practitioner of Prairietown, Ill.; died, January 21, from cerebral hemorrhage.

Christopher Columbus Lathers, Lieut., M. R. C., U. S. Army, Washington, D. C.; Howard University, Washington, D. C., 1914; aged 40; died, January 23, from pneumonia.

John M. Wiltshire ✠ Chillicothe, Ohio; Starling Medical College, Columbus, Ohio, 1865; aged 85; a veteran of the Civil War; died, January 17, from valvular heart disease.

Victor Knapp, Ferdinand, Ind.; Medical College of Ohio, Cincinnati, 1881; aged 62; a member of the Indiana State Medical Association; died, January 10, from uremia.

Alexander Crawford ✠ Mount Vernon, Iowa; Rush Medical College, 1883; aged 61; formerly health officer of Mount Vernon; died, January 10, from angina pectoris.

John M. Littler, Fortville, Ind., and Indianapolis; Kentucky School of Medicine, Louisville, 1876; aged 72; died in St. John's Hospital, Anderson, Ind., January 19.

Orson S Parker, Aurora, Ill.; Tulane University, New Orleans, 1892; aged 52; a member of the Illinois State Medical Society; died, February 5, from pneumonia.

Noah J. LaRose, Zion City, Ill.; Eclectic Medical Institute, Cincinnati, 1885; aged 68; health officer of Zion City since 1902; died, January 18, from influenza.

Franklin Newton Hudson, Gadsden, Ala.; University of Nashville, Tenn., 1874; aged 71; died at the home of his daughter in Birmingham, Ala., January 20.

Joseph A. Liddell, Cedartown, Ga.; Medical College of Georgia, Augusta, 1879; aged 65; a member of the Medical Association of Georgia; died, January 1.

Henry Harlan Townshend ✠ Hedgesville, Mont.; John A. Creighton Medical College, Omaha, 1896; aged 51; died, January 10, from cerebral hemorrhage.

Edward Burns Hughes, Canton, Ill. (license, Illinois, 1878); aged 78; died at the home of his sister in Ipava, Ill., January 23, from senile debility.

Charles Buchanan Young, Lynchburg, Va.; Hahnemann Medical College, Philadelphia, 1881; aged 68; died, January 13, from cerebral hemorrhage.

Wallace G. Bobb ✠ Philadelphia; University of Pennsylvania, Philadelphia, 1880; aged 59; died, January 25, from pancreatitis and septicemia.

Alexander Duff Stevens, Dunham, Que.; McGill University, Montreal, 1857; died in the General Hospital, Sweetsburg, Que., November 22.

Charles H. Wells, Philadelphia; Hahnemann Medical College, Philadelphia, 1891; aged 55; also a dentist; died, January 19, from pneumonia.

Charles Franklin Banta ✠ Eureka, Ill.; Bellevue Hospital Medical College, 1884; aged 63; died in the Methodist Hospital, Peoria, January 10.

Ralph Erskine Moffatt ✠ Harrisburg, Pa.; University of Pennsylvania, 1904; aged 43; died, January 26, in Cumberland, Md., from uremia.

Joseph Harris Cowell, Saginaw, Mich.; University of Michigan, Ann Arbor, 1871; aged 72; a veteran of the Civil War; died, January 18.

J. L. Underwood Cochran, Atlantic City, N. J.; Louisville (Ky.) Medical College, 1892; aged 47; died, December 24, from acute nephritis.

Alfred T. Evans, Rayville, La.; University of Alabama, Mobile, 1873; aged 71; died in Providence Hospital, El Paso, Texas, December 31.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE FRAUD ON THE PUBLIC AND ON THE PROFESSION

"AUTO-HEMIC SERUM"

A Cure for Laziness, Ugliness, Frigidity and Many Other Things

The following letters are typical of many that have been received asking for information regarding Dr. L. D. Rogers and his "Auto-Hemic Serum." This from a physician in New York state:

"Can you give me any information in reference to Dr. Rogers of Chicago, Ill., who has an Auto-Hemic Institute?"

And this from Kansas:

"Just received a letter from a Dr. L. D. Rogers, 2812 North Clark St., who is anxious to sell me a course in 'Auto-Hemic Therapy.' Would you kindly inform me what he has to sell? He did not tell me what it consisted of; am inclined to believe it is a rank fake. Kindly let me know what THE JOURNAL thinks about it. Just what is it? In the letter they claim that it is practically a panacea for every blood disease."

This from Maine:

"What is Auto-Hemic Therapy? I have a handsome red and yellow circular from the Ideal Life Extension Press, 2812 North Clark St., Chicago, soliciting subscriptions to their publication, offering as a bonus this book, 'Auto-Hemic Therapy' by L. D. Rogers, A.M., M.D., LL.D., Chicago, and membership in the American Medical Union."

THE NATIONAL MEDICAL UNIVERSITY

In order better to appreciate the probable scientific status of the "Auto-Hemic Serum," it is well briefly to sketch some of the previous activities of its discoverer, Dr. L. D. Rogers. For many years Rogers was the head and chief owner of the National Medical University of Chicago, a low-grade school of the "sun-down" variety. The "university" is now out of existence and for some time before it went out of existence was not recognized either by the board of health of the state in which it operated or by the boards of the majority of the other states in the Union. The report of the Carnegie Foundation on medical education had this to say about the laboratory facilities of Rogers' school:

> "The school occupies a badly lighted building, containing nothing that can be dignified by the name of equipment. There has been no dissecting thus far (October to the middle of April, 1909), anatomy being didactically taught. Persistent inquiry for the 'dissecting-room' was, however, finally rewarded by the sight of a dirty, unused, and almost inaccessible room containing a putrid corpse, several of the members of which had been hacked off. There is a large room called the chemical laboratory, its equipment 'locked up,' the tables spotless. 'About ten' oil-immersion microscopes are claimed—also 'locked up in the storeroom.' There is not even a pretense of anything else. Classes in session were all taking dictation."

Dr. Rogers is, or was, if he is not still, "Permanent Secretary" of the "National Association of Panpathic Physicians"—whatever that is. In fact, one of Dr. Rogers' specialties seems to be the founding of quasi-medical organizations—organizations, apparently, which may prove useful in the promulgation of such projects as he may, at the time, be interested in. A few years ago Rogers was exploiting a "cancer serum" and, *presto*, the "American Cancer Research Society" came into being, L. D. Rogers, president. Soon thereafter certain members of the profession were circularized urging them to purchase shares in the "Cancer Research Laboratory and Hospital," par value $10. Apparently, the profession did not invest.

A few years ago, also, L. D. Rogers' name appeared on the "Faculty" list of the "American Post-Graduate School," a concern which granted—on the mail-order plan—a long line of sonorous degrees and an equally complete line of ornate diplomas.

THE JAPANESE CONSUMPTION CURE

Then, in 1915, there appeared in the classified columns of certain newspapers the following advertisement:

> TUBERCULOSIS—New Japanese treatment; to prove merits and give discovery quick publicity will send 10 days' treatment free. DR. ROGERS, 546 Surf St., Chicago.

So far as we have been able to learn, Rogers, for some unexplained reason, did not call into existence out of the vasty deep a "Japanese-American Tuberculosis Research Society." This consumption cure apparently died of inanition.

Then came the "Auto-Hemic Serum" with its inevitable sequel, the "National Society of Auto-Hemic Practitioners." Another adjunct to the serum exploitation is the *North American Journal of Homeopathy*, the official organ of the "Auto-Hemic Practitioners" and of the "American Medical Union" and possibly of some other "societies"—but not representative of homeopathy!

WHAT IS AUTO-HEMIC THERAPY?

What is this new therapy? According to a very lurid poster it is described as "The Missing Link in Medicine"—possibly referring to the ease with which one may make monkeys of certain physicians. More specifically, although still vaguely, we learn:

"It consists in giving the patient a solution made by attenuating, hemolizing, incubating and potentizing a few drops of his or her own blood, and administering it according to a refined technic developed by the author."

Elsewhere it is said to consist:

". . . in taking five drops (or some multiple of five) of blood from a vein and putting it into nineteen times as much sterilized, distilled water, and incubating it at fever temperature for twenty-four hours, and then making further dilutions according to the needs of the case, as can be determined only by a physician skilled in its use."

Neither of these statements, of course, describes the "refined technic" of those "skilled in its use," but those who are interested can, by sending Dr. L. D. Rogers, "One Hundred Dollars cash-in-advance" get a mail-order course in this new marvel.

But if it is rather expensive to learn just how to use "Auto-Hemic Serum" it does not cost so much to learn what the "serum" will do. Rogers has written a book on the subject, "Auto-Hemic Therapy," which is used as a premium for subscriptions to the *North American Journal of Homeopathy*, price "$5.00 per year, payable in advance." In the book Dr. Rogers modestly assures his readers that he considers his discovery more important than that of Alex. Carrel, winner of a Nobel Prize.

A CURE FOR LAZINESS

One of the chief virtues claimed for this serum is that of developing in the patient who takes it an unbounded energy that, apparently, makes him want to work himself to death. In some sensational articles that have appeared in Sunday editions of newspapers on Rogers' serum, the stuff has been described as "Lazy Serum." One of the first cases described in the Rogers book is that of a young waiter, "a good-for-nothing lazy fellow who would not work and would not pay for medical services" and who was turned over to Dr. Rogers' free clinic. He was given the serum on Thursday and was told to report Saturday. He did not return until Monday, his excuse being that "he worked all day Saturday until midnight and all day Sunday and felt as if he could work all day and all night without rest." The "case report" ends:

". . . finally remarking, 'I feel like a bird' he flew out of the classroom and we never saw him again."

HOUSEWIVES TAKE NOTICE

The next case described is that of a servant girl who had not worked for a year; within a week after taking the "Auto-Hemic Serum" "she voluntarily beat carpets till she

blistered her hands." Then there was the rooming house keeper who had spent more than half of each day in bed. After an "Auto-Hemic" injection she "discharged her maid and janitor . . . and did all the work of her twelve room house herself, beating rugs, firing furnace and carrying out ashes besides doing some of the laundry." "Case No. 7176" is interesting: a man, generally considered the laziest person in his community and with a habit of "drinking thirty whiskies a day," took "Auto-Hemic Serum." He stopped drinking, shaved himself and changed from "a 'bum' to that of a sober, clean, wholesome, bright and honest workman." Then there was the case of the "lady physician" who "took the serum one evening and the next evening reported that she had had the 'giggles' all day"; also she became "more magnetic." More remarkable still was the case of the young woman clerk in a retail store who, after taking the serum "astonished her employer by volunteering to work over time." In the chapter dealing with "Ills Peculiar to Women" Dr. Rogers details the moving story of a *man* to whom the "serum" was given and who reported that "about the third twenty-four hours after taking it his bowels moved forty times"—nevertheless, "he felt no exhaustion."

In all phases of human activity the serum seems to work wonders. "The cases are numerous in which the frigidity of both sexes have [*sic*] melted after Auto-Hemic treatment." A young married woman with a morbid dislike for her husband took the serum and within a week "became normal." The discoverer suggests that in some cases there is no doubt that this serum "would prevent divorce." A forty-year-old woman who could not endure to wear any waists but white or black was able, it seems, after taking the serum to tolerate a veritable Jacob's coat.

Is, then, "Auto-Hemic Serum" good for everything? Let Dr. Rogers answer:

> "Briefly stated, without any great exaggeration, this new modified serum treatment is good for anything that is the matter with you, provided the cause is not organic, mechanical or bacterial."

One infers that in the inorganic, mental, spiritual and non-bacterial spheres the stuff is supreme. But it has its limitations. For instance, Dr. Rogers states that he once had "a very troublesome cough which lasted several weeks, but did not yield to this serum." Reaching the conclusion that some other treatment was necessary "he had the bones of his neck 'adjusted' and got immediate relief."

AS A COMPLEXION BEAUTIFIER

The serum "cannot be made up by the barrel and sold at wholesale or retail":

> "If it could be bottled and stored and sold at retail like a patent medicine, the demand for it as a complexion beautifier alone would net the proprietor millions. More than one person a few days after taking the treatment has been wrongly accused of painting."

Should any of The Journal readers decide to take the $100 mail-order course in "Auto-Hemic Therapy" he should realize that even after he has done so there are certain restrictions in the practice of this "therapy." In no case must he administer "a course of Auto-Hemic Treatment" for "less than $100, paid in advance." The only exceptions to this rule are "cases of absolute charity, expectant mothers and to persons positively unable to pay that amount." Furthermore, Dr. Rogers says that for the reputation of his method, as well as for the good of all concerned, "I insist that the entire fee be paid in advance and that the course extend over a period of one year whether the patient needs few or many treatments."

DOLLARS AND CENTS

For those who do not wish to take the mail-order course Rogers offers to prepare individual specimens of the "serum" from blood that is sent to him by the physician. The cost of this "serum" is $5.00, "in advance," of course.

Still emphasizing the commercial side, "Auto-Hemic Therapy" is especially recommended to "the general practitioner growing old and the physician who is ambitious to build up a creditable and lucrative office practice" because "the health of four people out of five (old or young, whether they consider themselves sick or well) taken at random can be improved by this method of treatment"! An Ohio physician was said to have doubled his $3,000 practice in two years after starting the "Auto-Hemic" method. A Virginia physician is alleged to have "increased his income $10,000 a year." A Pennsylvania physician, urged by Rogers to send $150.00 for the mail-order course, was assured that this "is merely a nominal amount, as most of the doctors have been able to get this amount back the first month."

But enough. The story, were it not for the tragic element that forms the background, would be amusing. But it *is* tragic!

Correspondence

"UNIVERSAL MILITARY TRAINING"

To the Editor:—Your commendation of the provisions for compulsory universal military training in the Wadsworth army bill in your editorial published in The Journal, January 31, I understand to be an endorsement of militarism. It does not seem possible that any one can avoid this conclusion who is familiar with the history and growth of this institution.

Before the war, in Europe, militarism was a subject much discussed; but here in the United States it received little attention because it did not concern us at that time and very few believed that it would ever be seriously proposed as the policy of our country. Now it has become one of the most important questions of our national life. In a few days the question may be decided by Congress, and your editorial may have important influence in determining the decision. I suppose we may reasonably assume that this was the purpose of the editorial.

I do not now propose to present objections to militarism, but I would like to call your attention to the fact that the advisability of introducing this institution into our national system is by no means admitted by all. On the contrary, this proposal is debated by the most serious students as an exceedingly important problem. I question your right to commit the Association to its endorsement. [The House of Delegates of the American Medical Association is the only body which can commit the Association to any policy; The Journal does not presume, pretend or intend to arrogate this right to itself.—Ed.]

You may claim that military training has some other purpose than the building up of a military system. You may contend that the four months' period of training, which you say is quite too short, is desirable for other reasons than because it furnishes the basis of a very large and trained American army. If you mean that military training is desirable for some other reason than this and for reasons that are so good that they might overbalance the dangers of militarism, it would seem proper that you indicate in some way why you commend it.

If your editorial were in a lay publication that made no claims to authority on questions of health and physical training, one might assume that you had in mind the value of military training for physical development. Your knowledge of the unfavorable reception heretofore accorded by Congress to public health measures must raise a doubt in your mind concerning the conversion of this body implied in its willingness to appropriate from 600 to 1,200 millions of dollars for a health measure. Moreover, it must seem strange that the military forces of the country have suddenly become so insensely interested in a health measure.

This argument for military training is so generally discredited by experts in physical education, and its honesty is so thoroughly impeached by the fact that the proposed compulsory training exempts those who most need it, that is, those least well developed physically as well as all girls, that it is not possible to assume that this senile and badly discredited reason is what you had in mind.

I hope you will inform your readers why you as representative of the American medical profession endorse this measure that some undoubtedly regard as vitally wrong.

C. S. Bacon, M.D., Chicago.

"EFFICIENT HOSPITALS": SUCCESS OF PRIVATE ROOM PLAN AT TEMPLE, TEXAS

To the Editor:—I have read with interest the article by Bacon on "The Efficient Hospital" (THE JOURNAL, Jan. 10, 1920, p. 123). It may be of some interest to your readers to know that the plan suggested is not only feasible, but has been in operation for many years at the King's Daughters' Hospital, Temple, Texas. Some years ago the staff of this hospital realized that the patients, especially the operative cases, would be better in private rooms than in the wards. Something like twelve years ago we abandoned the ward system entirely, and since then each patient, charity or otherwise, has had a private room, and it is seldom that the nurse in attendance knows whether the patient is a pay or a charity patient. So far as I know, this is the only hospital that gives charity patients private rooms. The rates of our rooms now run from $2 to $6 a day. Last year there were comparatively few calls for charity outright, but all of these were met with service in such rooms as were available at the time. It goes without saying that we do not put the charity patients in the most expensive rooms.

We have had to work practically without donation, except what little the physicians themselves have contributed, and no endowment. We now have a hospital of seventy-five beds. Of course there is some debt for buildings. Most of the buildings are of modern fire-proof construction. I merely mention this to show that the plan can be worked without wards, and charity taken care of, if the administration is thoroughly efficient. A rather stringent rule, that has been lived up to with practically no friction, is that the hospital bill shall be paid before the attending physician or surgeon can receive any pay.

Instead of having four wings, as suggested by Bacon, we have an L-shaped building with arms of about equal length, with the elevator and dumb-waiter at the angle. It is so arranged that no patient is as much as 100 feet from the distributing center. We have long since adopted the plan as suggested by Bacon of central cooking and central linen distribution, and find it exceedingly satisfactory. However, instead of having service rooms on the ground floors, we have them on the top floor, which we have found to be a better arrangement, as there is practically no odor of food throughout the building, and there is less possibility of the help's carrying off food—no small item in the southern country. As in Bacon's plan, we have examining, operating and roentgen-ray rooms, the pathologic laboratory and the like on the top floor, which is conducive to efficient hospital service.

After our experience with private rooms, we would consider wards again only with reluctance, and would by far prefer to furnish the charity patients with one of our less expensive rooms rather than return to a ward plan, which is unsatisfactory both to the patient and to his attending physician.

GEORGE S. MCREYNOLDS, M.D., Temple, Texas.

NOTE ON RESPIRATORY SOUNDS HEARD ON THE HEAD

To the Editor.—These phenomena are recorded largely because I do not find any mention of them in the literature. At present I know of no clinical significance which they may have.

When the bell stethoscope is placed over certain points of the face and head, breathing sounds are distinctly heard. These places are, first, the antrums; second, the temporal portion of the scalp; third, the vertex along the median line; fourth, just mediad to each mastoid and frequently over the mastoids themselves; fifth, at the junction of the occiput with the neck.

In many cases the breathing sounds may be heard all over the head, in other cases only in the places mentioned. There is a marked difference in the loudness of the sound heard, and, as might be expected, they are best heard on the heads of persons who have but little hair.

The quality of the sound is like that heard over the larynx, and probably represents a transmission along the skull of the respiratory noises in nose, pharynx and larynx, that is, the upper air passages. I have stated that a bell stethoscope is best for hearing these sounds, but a Bowles may be used. The subject should be instructed to breathe deeply and regularly.

The phenomena are physiologic. That they may be of some significance in fracture of the skull and in diseases of the sinuses and the mastoid seems possible, *a priori*. I have not had the opportunity to study such cases, but take this opportunity of calling the attention of specialists in this field to these phenomena.

ABRAHAM MYERSON, M.D., Boston.

"THYROIDECTOMY IN PREGNANCY"

To the Editor:—In your editorial, January 13, page 329, occurs the question: "May premature delivery be associated with the milder grades of hyperthyroidism?" I believe that it is pretty generally conceded by students of the subject that hyperthyroidism produces premature delivery. I myself have observed a number of cases that seem to substantiate this opinion. The report of one of these cases I am quite sure was published, but I cannot just now cite the reference. It was a case of premature delivery from separation of the placenta, which separation, I concluded after careful survey of the case, was caused by a hyperactive thyroid. Crotti, in his book on "Thyroid and Thymus," page 368, speaking of exophthalmic goiter in pregnancy, says: "It predisposes the patient to uterine hemorrhages and may result in the death of the fetus."

MILES F. PORTER, M.D., Fort Wayne, Ind.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SPIDER VENOM

To the Editor:—Will you let me know the name of the poison that causes the symptoms following the bite of a spider known as the "black widow," or, scientifically, *Latrodectus mactans*. I wish to know how and why this acts so violently on human beings. I have had three cases in the past few years. I have letters from Dr. Howard of the U. S. Department of Entomology, some from the Florida State Bureau, and one from Dr. Eugene Courson, Savannah, Ga., who wrote about the "widow" years ago. Dr. Courson has no extra copies of the paper. The two former told me about the distribution and gave me a list of references. None of them seemed to answer my question of what the poison is and how and why it acts as it does. Hence I am writing to you, as I was sure you would be able to help me out.

GEORGE D. KENNEDY, M.D., Mandarin, Fla.

ANSWER.—Little is positively known about the specific nature of the venom of spiders, although there has been much speculation. The venom is an oily, translucent, lemon-yellow liquid having an acid reaction and a hot, bitter taste. It gives the xanthroproteic reaction and is rendered harmless by heating to 90 C. In many ways the symptoms of spider bites resemble those produced by snake bites, so that it is probable that the spider venoms belong to that class of poisons. It is known that snake venoms are very complex mixtures and that they differ greatly in the different species of reptiles. Among the ingredients that have been found are fibrin ferment and antiferment, proteolytic enzymes, cytotoxins for red corpuscles, and neurotoxins, as well as leukocytes and endothelial cells. The marked effects on the nervous system produced by the bite of the black spiders, *Latrodectus mactans*, and other species of *Latrodectus* indicate that the venom of these animals resembles that of the cobra more nearly than the venoms of American snakes. Kobert believes that all parts of the spider contain a toxalbumin which in some species is mixed with the secretion of the poison gland. He considers that the secretion of the poison gland produces only local symptoms, while the general symptoms are due to the presence of this toxalbumin. It is because of the toxalbumin that the bite of *Latrodectus* is so

severe as occasionally to cause death in human beings. It contains a hemolysin called arachnolysin which acts on the red cells of man, rabbit, mouse and goose, but not on the horse, dog, sheep and guinea-pig. Some authors question whether the nervous symptoms following spider bites may not be due to changes in the blood rather than to a direct toxic effect on the nervous tissues.

The appended bibliography may be of interest:

Houssay, B. A., and Negrete, J.: Nuevos estudios experimentales sobre la acción fisiológica de las ponzoñas de las arañas, *Rev. d. Inst. Bact.*, Buenos Aires **2**: 189 (June) 1919.

Kobert: Beiträge zur Kenntniss der Giftspinnen, 1901.

Sachs: Zur Kenntniss des Kreuz Spinnengiftes, Hoffmann's *Beiträge* **2**: 125.

Wilson: Records of the Egyptian Government School of Medicine, 1904, p. 7.

Castellani and Chalmers: Manual of Tropical Medicine, 1910, p. 136.

Browning: Original Investigations of Spider Bites in Southern California, *South. California Pract.* **16**: 291, 1901.

Davidson: *South California Pract.* **12**: 169, 1897.

Riddick: A Case of Poisoning from the Bite of a Black Spider, *North Carolina M. J.* **40**: 247, 1897.

Hodgdon, A. L.: Bite of a Poisonous Spider, Latrodectus Mactans, The Journal May 4, 1907, p. 1506.

HYPERHIDROSIS

To the Editor:—Some time ago you printed several prescriptions for the treatment of hyperhidrosis. Can you find these for me and tell me in what issue of The Journal they were published?

William Hill Bean, M.D., New Haven, Conn.

Answer.—The following prescriptions appeared in the Therapeutics Department of The Journal, Jan. 12, 1918:

		Gm. or C.c.
℞	Chromium trioxid	2 | 5
	Water	50 |

Use as a paint once a week.

This treatment is said to be exceedingly active, and hence must be used with care, especially in the axillae. Less active but more pleasant than the foregoing is:

		Gm. or C.c.
℞	Tannic acid	5 |
	Alcohol	100 |
	Water	up to 200 |

Use as a wash twice a day.

The drying powders suggested were:

		Gm. or C.c.
℞	Boric acid	10
	Purified talc	100 |

		Gm. or C.c.
℞	Salicylic acid	5 |
	Bismuth subnitrate	40 |
	Zinc stearate	20 |

		Gm. or C.c.
℞	Salicylic acid	2 |
	Bismuth subnitrate	20 |
	Starch	20 |

Other remedies suggested are: 25 per cent. solution of aluminum chlorid in distilled water; 2 per cent. solution of the official liquor formaldehydi in water (a 5 per cent. solution may be used for the feet); pure glycerin; potassium permanganate solutions of about 5 parts to 1,000. In very severe cases, the roentgen ray has been used with some good effect; however, the method is expensive and not entirely safe in unskilled hands.

DRY, WARM CLIMATE TO RETARD DEAFNESS

To the Editor:—I am unfortunate enough to suffer from partial deafness, due to catarrh of the nares, eustachian tube and middle ear. I realize that my hearing is becoming worse and that sooner or later I shall be incapacitated from doing medical work. I have treated with some of the best aurists in the East, have had my tonsils removed, septum straightened, tubes dilated and ears inflated, but without any permanent success. One or two aurists have replied, in answer to my query concerning the effect of climate, that my removal to some dry climate might aid my ears. I have endeavored to learn from the U. S. Public Health Service and the U. S. Weather Bureau of some of the localities in the United States where the climate may be suitable to my needs, but without success. It occurs to me that you may be able to give me the information I desire or may be able to refer me to some one who can. Or it might be that the publication of this letter will put me in touch with physicians who will give me the desired information. Whatever the course pursued to obtain the facts I want, I shall be glad to meet any expenses that may arise. I shall appreciate greatly any reply you may make or any thing you may do in this matter.

Rolla Camden, M.D., Parkersburg, W. Va.

Answer.—This communication is published for the purpose of bringing our correspondent's request to the attention of some reader who may be able to give him the information he seeks.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

Alaska: Juneau, Mar. 2. Sec., Dr. L. O. Sloan, Juneau.

California: Los Angeles, Feb. 16-19. Sec., Dr. Chas. B. Pinkham, 906 Forum Bldg., Sacramento.

Connecticut: New Haven and Hartford, March 9-10. Sec., Reg. Bd., Dr. Robert L. Rowley, Hartford. Sec., Homeo. Bd., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven. Sec., Eclectic Bd., Dr. James Edwin Hair, 730 State St., Bridgeport.

Florida: Jacksonville, March 16. Sec., Homeo. Bd., Dr. Geo. A. Davis, East Port.

Illinois: Chicago, Mar. 1-3. Director, Mr. Francis W. Shepardson, Springfield.

Iowa: Iowa City, March 29-31. Sec., Dr. Guilford H. Sumner, Capitol Building, Des Moines.

Maine: Portland, March 9-10 Sec., Dr. Frank W. Searle, 140 Pine St., Portland.

Massachusetts: Boston, March 9-11. Sec., Dr. Walter P. Bowers, Room 144, State House, Boston.

National Board of Medical Examiners: St. Louis and Chicago, Feb. 18-25. Sec., Dr. J. S. Rodman, 1310 Medical Arts Bldg., Philadelphia, Pa.

New Hampshire: Concord, March 11-12. Sec., Dr. Charles Duncan, Concord.

Rhode Island: Providence, April 1-2. Sec., Dr. Byron U. Richards, State House, Providence.

Massachusetts September Examination

Dr. Walter P. Bowers, secretary of the Massachusetts Board of Registration in Medicine, reports the oral, written and practical examination held at Boston, Sept. 9-11, 1919. The examination covered 13 subjects and included 70 questions. An average of 75 per cent. was required to pass. Of the 45 candidates examined, 35, including 4 osteopaths, passed, and 10, including 3 osteopaths, failed. One candidate, a graduate of Harvard University in 1915, passed a special examination held Sept. 24, 1919. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Chicago College of Medicine and Surgery	(1916)	78.8
Rush Medical College	(1898)	75
Bowdoin Medical School	(1917)	79.3
Medical School of Maine	(1899)	75
Baltimore Medical College	(1895) 75, (1912)	75
University of Maryland	(1916) 78.9, (1917)	79.8
Boston University	(1906)	80.5
College of Physicians and Surgeons, Boston	(1919)	76.7
Harvard University	(1913) 80.6, (1914) 81.2, (1916) 82.7, 87.5, (1918) 83.	
Middlesex College of Medicine and Surgery	(1919)	77.1, 78.2
Tufts College Medical School	(1905) 76, (1917)	75
University of Michigan Homeopathic Med. School	(1911)	81
Washington University	(1919)	85
Dartmouth Medical College	(1910) 80.7, (1914)	81.7
Cincinnati College of Medicine and Surgery	(1901)	78.4
Ohio State University College of Homeo. Med.	(1915)	76.9
Hahnemann Medical College and Hospital of Phila.	(1919)	82.2
Jefferson Medical College	(1908) 81.2, (1918)	80.1
Woman's Medical College of Pennsylvania	(1912)	77
University of Vermont	(1915)	75.7
McGill University	(1916)	85.5
FAILED		
Chicago College of Medicine and Surgery	(1914)	68.5
Chicago Hospital College of Medicine	(1917)	71.6
College of Physicians and Surgeons, Boston	(1916)	68.2
Middlesex College of Medicine and Surgery	(1918) 65.1, (1919) 71.2.	68.2,
Tufts College Medical School	(1919)	73.3

Connecticut November Examination

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, Nov. 11, 1919. The examination covered 7 subjects and included 70 questions. An average of 75 per cent. was required to pass. One candidate was examined and passed. Two candidates were licensed by reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
New York Homeopathic Med. Coll. and Flower Hosp.	(1919)	83

College	Year Grad.	Reciprocity with
LICENSED BY RECIPROCITY		
New York Homeopathic Med. Coll. and Flower Hosp.	(1915)	New York
New York Med. College and Hospital for Women	(1903)	New York

Social Medicine and Medical Economics

HOME AND PUBLIC HEALTH NURSES AND THEIR TRAINING

JOHN DILL ROBERTSON, M.D.
Commissioner of Health
CHICAGO

As this paper goes to press, we are in the midst of the 1920 outbreak of influenza.

Several days before the outbreak assumed epidemic proportions, the available supply of regular nurses was exhausted. For a period of days the calls for nurses poured in at the health department at the rate of fifty an hour.

At the offices of the School for Home and Public Health Nursing, two girls were kept busy at the telephone all the time taking calls for nurses trained in our eight-weeks course. Four hundred of our graduates took cases in private homes. Six hundred others, who were restrained by household duties from nursing full time, spent as many hours each day as they could spare in attending to the needs of the families in their neighborhood. All others, so far as I can ascertain, took care of their own ill, if they had any. Apparently there were no demands made on the regular nursing agencies by the families of any of our graduates.

THE DIFFICULTY OF SECURING NURSES

Every physician knows the difficulty of securing competent nursing care for the family in moderate or in submoderate circumstances. The difficulty has been steadily growing greater instead of less. There are various causes responsible for this condition. Foremost among them is the extension of the preliminary requirements for matriculation in a hospital for training. The nurse that is required to graduate from high school and spend three years in hospital training before she is eligible for registration feels that she cannot afford to work for less than $35 a week. And she is quite right.

There is no question about the value of the registered nurse: her services are invaluable for those who can afford them. The trouble is that only those in very comfortable financial circumstances can afford them. When the family weekly income must cover fixed expenses such as rent, fuel, food, clothing, insurance, and so on, it is obvious that there is not sufficient left to cover $35 a week and board for a nurse.

Physicians realize that disease is all too frequently the penalty of carelessness or of ignorance. Often it is the result of ignorance. There is no reason, however, why the victim should be too heavily penalized. His suffering is usually sufficient punishment for him. It is our duty to teach him as much as we can; but when a man is ill we should help first and teach afterward.

THE SCHOOL FOR HOME AND PUBLIC HEALTH NURSING

In August, 1919, we established in Chicago the School for Home and Public Health Nursing, both to teach and to help. The length of the course is two months. The pupils spend in class two hours a day for three days a week. We graduated 790 in the first class and 1,363 in the second class. Our third term opened, December 6, right in the midst of the fuel shortage incident to the coal strike. We found it necessary, therefore, to limit the size of the class to 1,000, and now have that number enrolled. We hope, however, to be able to make some arrangements that will enable us to admit a larger class in February.

At no time since the graduation of the first class have we been able to fill the calls for the services of these women, in spite of the fact that we have not circularized the physicians of the city or in any way attempted to advertise their work. The calls for them have come in the main from the patients themselves, rather than from the attending physicians; but no dissatisfaction with their work has been expressed to me. Quite the reverse. As to the work they have been doing in their own homes I have, of course, no data.

In the beginning, our course aroused bitter opposition in some quarters. There is still some opposition; but this has never been sufficient to affect the work. Those who have spent three years in hospital training naturally feel that a nurse cannot be trained in two months—every one knows that a West Point graduate felt just the same way about a Plattsburg man. We do not, of course, pretend that the nurses we are training are the equal of registered nurses—that would be foolish, indeed. What we claim is that they can satisfactorily fill the need for nurses in the general run of cases in which all that is needed is some one to follow the physician's directions intelligently. In a critical surgical case, I should prefer a surgically trained nurse; surgical cases, however, make up a very small percentage of the cases that require nursing. For nursing tuberculosis, diabetes and cancer cases; nervous invalids, elderly persons, babies, children with measles, chickenpox, and, in fact, any children's diseases; for cases of tonsillitis, septic sore throat, colds, etc.—in short, for the great bulk of nursing, these women are quite as capable as the registered nurse. Often they are more desirable because they are willing to do housekeeping as well as nursing, and, in its final analysis, nursing is nothing more nor less than housekeeping for the sick.

THE CURRICULUM

Before we established the school, I called a meeting of the staff of the department of health. We discussed the curriculum of the standard nursing course with a view to determining what in the course was essential. As a result of this conference, we drew up a course of study for our school. Then we selected from our staff of physicians those who seemed best fitted to teach the subjects we had included in the course, and from our corps of city nurses we selected those who could best demonstrate the nursing technic we thought necessary.

The course included lectures on:

The home nurse, her duties, qualifications and dress.
The sick room.
Daily routine care of the patient.
Giving medicine and home medicine equipment.
Temperature, pulse and respiration.
Uses of water as a therapeutic agent.
Symptoms of sickness.
First aid to the sick.
First aid to the injured.
Poisons and their antidotes.
The human body.
Food.
Food for the sick.
Sanitation of the home.
Plumbing and the housewife.
Contagious diseases.
Causes, symptoms and prevention of contagious diseases.
Principles of contagious disease nursing.
Nursing care of influenza.
Nursing care of patients suffering from tuberculosis.
Obstetric nursing.
Care of the baby.
Care of the older child.

Our demonstrations included bed making, bathing, sponging, taking temperature, pulse and respiration, bandaging, first aid, etc.

We placed most emphasis on the taking of temperature, pulse and respiration. We held temperature, pulse and respiration clinics. Every pupil was required to provide herself with a clinical thermometer. We taught them to take temperature by mouth, by rectum and by axilla; and we didn't let one go until she could take temperature and read her ther-

mometer correctly. Many of them learned in a short time, others were slower. The hardest two weeks of the course, so far as the instructors were concerned, were the two weeks when we were drilling on this subject.

The lectures on contagious disease nursing were given by the nurse in charge of the work at our contagious disease hospital. The lectures on obstetric nursing were given by a woman who had spent twenty years in that sort of nursing. The lectures on the nursing of the tuberculous were given by experts in this line from the Municipal Tuberculosis Sanitarium, and augmented by lectures by the medical director of that institution. And so on with the other lectures—each was given by the best talent that we could command. No one who lectured did so from theoretical knowledge alone.

Throughout the course we hammered on two main propositions—absolute adherence to the physician's orders, and cleanliness. In order to show them what a physician means by cleanliness, I arranged that every woman who attended the lectures should be given a chance to see at least one surgical operation from a hospital amphitheater. They were visibly impressed by the precautions taken by the surgeon and his assistants to secure absolutely aseptic conditions. Clean hands

TABLE 1.—DATA CONCERNING THE FIRST TWO CLASSES

	No.
Ages:	
Under 20	81
From 20 to 25	311
From 25 to 30	354
From 30 to 35	320
From 35 to 40	328
From 40 to 45	282
From 45 to 50	215
Over 50	147
Nativity and marital status:	
American born	1,728
Foreign born	425
Colored	192
Single	802
Married	997
Widowed	354
Education:	
Grammar school	1,252
High school	520
Business college	245
College	136

no longer mean to those women what clean hands meant to them before they saw the surgeon and his assistants scrub up.

It is no part of the duty of a nurse either to diagnose or to prescribe. In our lecture on the "Symptoms of Disease" we endeavored to teach them what symptoms indicated the presence of a condition that should be brought to a physician's attention; we made no attempt to teach them to read the meaning of the symptoms. We taught them that when they found a high temperature associated with an abnormal pulse they were to summon a physician at once. We taught them that any abnormal condition of the excretions of a person, whether a patient or one apparently in good health, should be brought to the attention of a physician. We tried to make clear to them that it was wise to have a physician overhaul the physical mechanism as soon as there was even an apparently trifling indication of trouble rather than to wait to see whether something worse would develop. Our idea in this was to have these women become the guardians of the health of their families first and to act as their nurses secondly.

In our lecture on "Giving Medicine," we emphasized the importance of absolute adherence to the physician's orders. We made not the least attempt to teach the women to prescribe; on the contrary, we tried to make clear to them the danger of attempting to prescribe even castor oil of their own accord. There is no other place in the universe where a little knowledge is so truly a dangerous thing as in medicine. These women know that they know nothing about materia medica—at least we told them so often enough.

Our aim throughout has been to train them enough to enable them to follow the physician's orders explicitly; but not enough to make them think they can assume any part of the duties of the physician.

In order that there might be no mistake as to what they had been taught, we collected the lectures from those who gave them and incorporated them in an official note book. We gave a copy of this note book to each nurse we graduated.

TABLE 2.—SALARIES DESIRED BY EIGHT HUNDRED AND SEVENTY-TWO GRADUATES WHO ARE WILLING TO WORK OUTSIDE THE FAMILY

	No.
Willing to work for from $10 to $15	7
Willing to work for from $15 to $18	82
Willing to work for from $18 to $20	165
Willing to work for from $20 to $25	618

USE MADE OF THE TRAINING

Many of the women we have trained have no intention of doing any nursing outside of their own families. The figures given in Table 2 will be of interest. Whether they nurse their own families of their neighbor's families, however, makes little difference in the final result. If Mrs. Brown can nurse her own sick, the nurse who would otherwise be on duty in her home is released for work elsewhere. The homes in which there are neither babies, children nor elderly persons are few and far between. Where there are none of these to tax the family income, the family can probably afford to pay for the services of a registered nurse in case of illness in the household. Where there are babies, children or elderly persons, the nurse is always likely to have enough to do to keep her busy at home.

We started the school when we did in order to be prepared for a possible recurrence of the influenza epidemic that swept our country during the winter of 1918-1919. A great many of the women that we have trained can be depended on to come to our aid in time of need, such as a recurrence of the epidemic would cause. When I say that they are unwilling to do nursing outside of their own homes I mean ordinarily, not during an epidemic.

Many of our graduates want more knowledge, as witness the data given in Table 3.

TABLE 3.—GRADUATES WHO DESIRE FURTHER INSTRUCTION

	No.
Registered for extension courses	1,222
Willing to enter hospital:	
For three months	225
For one year	50
For two years	8
For three years	35

CONCLUSION

The prophet's job is a thankless one, consequently I shall not attempt to prophesy the final outcome of the movement that we have undertaken. I shall, however, state that I expect to have trained 10,000 women in our school by the end of the first year of its existence. Ten thousand nurses sounds like a drop in the bucket in a city of two and a half million; but 10,000 such nurses would have saved many lives if we had had them during our epidemic in 1918. Moreover, it is a start, and every one knows that a task well started is half finished. Eventually, I should like to have every housewife in Chicago in our class room, not so much to train her to

nurse the sick as to train her to keep her family well. In my mind there is no doubt that preventive medicine will supplant our present system of remedial medicine in the near future. When every man pays his physician to keep him well instead of to get him well, there will be little need of health commissioners. I am trying to do my part toward bringing about such a state of things.

Let me repeat, it is no part of our plan to run in opposition to the registered nurse. There will always be a field for her. It is our plan to train a body of housekeepers for the sick, practical nurses, attendants—whatever you want to call them—who will competently carry out the physician's directions in that great bulk of cases in which it is out of the question to pay for the services of a registered nurse. We are training soldiers to serve under the leadership of the physician in the fight against disease; we are not training subofficers.

I should like to see a similar movement undertaken by every health department in our land, and can promise the help of my department to the extent of our resources to any one who desires it.

Book Notices

VENEREAL DISEASES: A PRACTICAL HANDBOOK FOR STUDENTS. By C. H. Browning, M.D., D.P.H., Director of Bland-Sutton Institute of Pathology of Middlesex Hospital, and David Watson, M.B., C.M., Lecturer on Venereal Diseases, Glasgow University, with an Introduction by Sir John Bland-Sutton, F.R.C.S. Cloth. Price, $6.50. Pp. 336, with 76 illustrations. New York: Oxford University Press, 1919.

This manual gives an outline of our knowledge of syphilis in 140 pages, and then of gonorrhea, in almost the same amount of space. The presentation is up to date, scientific, well written, and orthodox. As one of the authors is a laboratory man who has done considerable work on syphilis, the book goes with more than ordinary detail into the laboratory side of these diseases. This is altogether to be desired. The consideration of the diseases, furthermore, is not confined to either genital or skin manifestations: the systemic manifestations of both syphilis and gonorrhea are given due consideration. Although the book is called a handbook of venereal diseases, chancroid, curiously enough, is given no formal consideration, being taken up incidentally in connection with the diagnosis of syphilis. It is entitled to more consideration in a book on venereal diseases. The make-up of the book is good. Some criticism is to be made of the illustrations. The clinical illustrations in black and white are not as good as we are used to, and many of the colored clinical illustrations, which are made from color photographs, are poor. A few are quite lifelike. The book has the great merit of being concise and not burdened with unnecessary details. It can be highly recommended as a guide to a practical knowledge of syphilis and gonorrhea.

PLASTIC SURGERY: ITS PRINCIPLES AND PRACTICE. By John Staige Davis, Ph.B., M.D., F.A.C.S., Instructor in Clinical Surgery, Johns Hopkins University. Cloth. Price, $10 net. Pp. 770, with 864 illustrations. Philadelphia: P. Blakiston's Son & Co., 1919.

It is the author's opinion that "the field of plastic surgery extends from the top of the head to the sole of the foot, and no properly trained plastic surgeon would be willing to limit his work to the face alone"; as a result, he has assembled between the covers of one book a summary of restorative and reconstructive surgery dealing primarily with defects of the surfaces of the body, including harelip and cleft palate, hypospadias, and exstrophy of the bladder. Wound infection, burns, deforming cicatrices, chronic ulcers and the general principles of tissue transplantation, with especial reference to the transplantation of skin, are among the subjects receiving thorough consideration. There is little to criticize unfavorably, and much to commend. The style is clear and convincing; there is no verbosity, and yet when the author has discussed a subject there are few places where the admirable brevity of the text permits of ambiguity or misinterpretation. The illustrations are numerous, well executed and labeled with a thoroughness rarely seen in textbooks, but which should be much appreciated by those who may wish to use this book as a guide. An abundant and possibly top-heavy bibliography appears at the end of each chapter. The author has what might be called the definitive adjective habit. Like many other medical writers, he speaks of an appendicitis, a pneumonia, a necrosis, apparently being unable to overcome the habit of interjecting the unnecessary word. From a scientific standpoint the book is excellent, and should find a place in every medical library.

MEDICAL SCIENCE: ABSTRACTS AND REVIEWS. Monthly. Published for the Medical Research Committee by the Oxford University Press. Price, $8.50 per annum.

This publication is an outgrowth of one published during the war under the auspices of the Medical Research Committee to keep British military physicians informed concerning advances in medical science as revealed in periodical literature. The publication includes collective abstracts on various subjects as well as abstracts of single articles which have seemed to the editors to be of special importance. The editors are: medicine, J. D. Rolleston, M.D.; surgery, W. G. Spencer, M.S., F.R.C.S.; pathology and bacteriology, W. Bulloch, M.D., F.R.S.; neurology, F. M. R. Walshe, M.D., and radiology, W. S. Lazarus-Barlow, M.D., F.R.C.P., and Sidney Russ, D.Sc. In addition to covering the field as did the German "Centralblatts," the editors of the various departments do not seem to be bound to local or national schools of medicine, but have consulted freely the periodical literature of all nations.

PHYSICAL DIAGNOSIS. By Richard C. Cabot, M.D., Professor of Medicine in Harvard University. Seventh edition. Cloth. Price $4. Pp. 527 with 269 illustrations. New York: William Wood & Co., 1919.

In his preface, Dr. Cabot states that new experiences gained during the war have modified his ideas on the cardiac signs of nervousness, on hilum tuberculosis, on goiter heart and on empyema. New matter has been supplied on these subjects. He also states that he has developed great skepticism "as to the existence of rheumatic mitral regurgitation (without stenosis), as to the diagnosis of chronic appendicitis and of tricuspid stenosis." He has also presented some new views on the subject of arterial sclerosis and blood pressure. Beyond these points, the book appears much as usual. It is well printed, with numerous illustrations, and is a reliable textbook.

Medicolegal

Liability for Negligent Advice to Parents of Scarlet Fever Patient

(Skillings v. Allen (Minn.), 173 N. W. R. 663)

The Supreme Court of Minnesota, in affirming an order overruling a demurrer to the complaint in this case, holds that a physician may be liable to a parent of a patient for damages sustained by such parent from negligent advice given by the physician, as when the patient had scarlet fever. In other words, the court holds that a complaint states a cause of action when it is alleged therein that the defendant, a physician, was employed by the plaintiff to attend his minor daughter professionally while she was sick; that, knowing that the child's disease was scarlet fever, he negligently advised the plaintiff's wife, who inquired in his behalf as well as in her own, that it was safe to visit the child, then in a hospital and under the defendant's care; that he also advised her that it was safe to remove the child from the hospital to the plaintiff's home, and that there was no danger that the disease would be communicated, although it was then at a stage when great danger of infection existed; that the plaintiff and his wife did not know of the infectious nature of the disease and relied on the defendant's advice, and accordingly visited their child at the hospital

and removed her to their home, and the plaintiff thereby contracted scarlet fever, to his damage.

The court says that the case was a novel one, wherein it had been certified that the question raised was important and doubtful, and counsel for the defendant asserted that no case like it had before been presented to any court, so far as they had been able to ascertain. Counsel contended that a cause of action was not stated because there were no contractual relations between the plaintiff and the defendant. But the statement in the complaint, that the child was under the defendant's care "pursuant to solicitation and employment by the plaintiff and his wife," amounted, the court thinks, to an allegation that there were such relations. True, the child was the defendant's patient; but can it be said that therefore he owed no contractual duty to her parents by whom he was employed? The child would have a cause of action against the defendant for the consequences of any failure on his part to treat her with ordinary professional skill and care, though she did not employ him. The plaintiff might also have a cause of action entirely separate and apart from that of his child for the loss of her services, due to the same failure to exercise ordinary professional care which gave rise to the child's cause of action. Generally speaking, one is responsible for the direct consequences of his negligent acts whenever he is placed in such a position with regard to another that it is obvious that if he does not use due care in his own conduct he will cause injury to that person. This principle was applicable to the fact stated, and the demurrer to the complaint was properly overruled.

Assuredly this was a case in which there was every reason to hold that the defendant was under a legal duty to the plaintiff, and it was of little practical consequence whether the duty was called contractual or noncontractual. The health of the people is an economic asset. The law recognizes its preservation as a matter of importance to the state. To the individual nothing is more valuable than health. The laws of Minnesota have been framed to protect the people, collectively and individually, from the spread of communicable diseases. Scarlet fever is classed as such a disease. When the defendant discovered that the plaintiff's child was suffering from an infectious disease, it became his duty to comply with the laws of the state in order that the public health might be protected. His duty did not stop there. The child's parents were naturally exposed to infection to a greater degree than any one else. To advise them that they ran no risk in visiting her at the hospital or in taking her into their home necessarily exposed them to danger if they acted on the advice, and the defendant was bound to know that they would be likely to follow his advice. It was allowed that the advice was given negligently, and all the necessary elements of a cause of action based on negligence were present.

The court concludes that the complaint was not demurrable, although it might be true, as suggested, that it is a matter of common knowledge that scarlet fever is an infectious disease and that the plaintiff might not have been greatly influenced by the defendant's alleged assurance that he might visit his child or take her to his home without running any risk of infection.

Osteopathy and the Practice of Medicine

(In re Opinion of the Justices (R. I.), 107 Atl. R. 102)

The Supreme Court of Rhode Island, in giving the opinion, in answer to a question in regard thereto submitted by the governor, that persons who have received certificates to practice osteopathy from the state board of health, and who have registered in the town clerk's office of the city or town in which they reside their authority for so practicing, are legally entitled to sign death certificates in those cases in which they were last in attendance professionally on the deceased, says that it thinks the conclusion reached is strengthened by a consideration of the result if the other construction were adopted. In that case we should have this situation: The state by its examination and certificate has certified to the ability of the osteopath to discover the cause of the disease while the patient is alive; but, on the death of the patient, the osteopath then is to be held to be incompetent and unauthorized to state the cause of death. Such a construction is illogical, and its effect would be to impose in many instances unnecessary hardship and pain on the relatives of the deceased. It cannot be doubted that the practice of osteopathy as authorized by Chapter 1058 of the Public Laws of 1914 is the practice of medicine within the meaning of those words as used by Section 8 of Chapter 193, by which penalties are provided for the unlawful practice or attempt to practice medicine or surgery or any of the branches of medicine or surgery. The statute authorizes the licensed practitioner of osteopathy to make a diagnosis of diseased or abnormal conditions of the human body and to apply a remedy therefor. This power of diagnosis is not restricted. Having determined, however, the nature and the cause of the sickness, the practitioner is then restricted to the remedy for the ailment which must be confined to manipulation of the body; the method and the extent of the manipulation is left to the judgment of the practitioner. But in some parts of the statutes the word "physician" undoubtedly does have the limited meaning of doctor of medicine, and not the broader meaning; as in Chapter 123, Section 54, by which it is provided that liquors are not to be sold, etc., except on a physician's prescription; and in Section 17 of Chapter 178, "Of Medicines and Poisons," where it is provided that any physician who shall prescribe certain drugs, etc. As osteopaths have no authority to give prescriptions or to prescribe drugs, it is manifest that the word "physician" in these clauses does not include a practitioner of osteopathy.

Demand for Injection of Collargol Not Reasonable

(United States Fidelity & Guaranty Co. et al. v. Wickline (Neb.), 173 N. W. R 689)

The Supreme Court of Nebraska holds that, when a woman employee who has suffered an injury to one of her kidneys offers to permit a roentgenogram of the kidney to be made, but refuses to permit the injection of collargol into the kidney for the purpose of rendering it opaque, she does not necessarily, by such refusal, forfeit her right to compensation under the employers' liability act. The court says that in a former opinion it stated that, in the present advanced state of the science of roentgen-ray examinations and photographs of the person, there appears to be no reason why such examination or photograph should not be permitted by a claimant for compensation under the employers' liability act, on request by the employer or insurer, unless the request is shown to be unreasonable. The district court was therefore required to determine whether under the circumstances the request in this case was reasonable. A physician skilled in the art of making and reading roentgenograms testified that in order properly to determine the extent and character of the defendant's injury a roentgenogram of the kidney ought to be made, and that in order to make a proper roentgenogram it might be necessary to inject collargol into the kidney. In the hands of an expert, he said, there is no danger whatever; but that procedure is not used as extensively as formerly, because of ability now to roentgenograph the kidney without it, though he found it necessary to use the solution in a few cases. The defendant testified that if the court called on her to have a roentgenogram taken, she would permit that to be done; but she would refuse to have collargol injected into her kidney. The district court found that the demand on her was not reasonable, and that her refusal ought not to bar her from a recovery of compensation under the employers' liability act; and the supreme court is constrained to hold, with the trial court, that the demand on Mrs. Wickline was not reasonable. It will be seen from the testimony produced by the plaintiff, the supreme court says, that it is only in rare instances that it is necessary to inject this substance into the kidney, and it would seem that the plaintiff ought to have availed itself of the defendant's offer to submit to a roentgenoscopy without this injection. It might be that an injection was not necessary.

Society Proceedings

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Jan. 14, 1920

The President, DR. J. FRANKLIN STAHL, in the Chair

The Question of Dental Infection in the Production of Nervous and Mental Diseases

DR. CHARLES K. MILLS: Fortunately, the mind of the profession seems to be tending toward a very healthy discussion of the probable fallacies of dental infection in its relation to various important diseases, and of many other correlated and zealously exploited views. Shortly after the death of Colonel Roosevelt, a newspaper article appeared which illustrated one of the most dangerous forms of medical propaganda. It was stated that one of Colonel Roosevelt's teeth was the indirect cause of his death, and that thousands of persons die or are incapacitated yearly from maladies arising from infected teeth. The cases of a rescued backward boy whose brain was clouded to the point at which he could not master the rudiments of knowledge, and a youth assailed with a lethargy at the age of 15, who afterward became one of the most brilliant lawyers of the Middle West, were included in a series of cases supposedly illustrative of the marvelous results of the removal of infected teeth. I have but little doubt that literally bushels of teeth of excellent quality have been sacrificed as the result of this atrocious article about Colonel Roosevelt. Viewing roentgenograms, I have been skeptical as to what are designated as abscesses at the roots of teeth. It has always seemed to me that these pictures represented absorptive lacunae or artefacts of some other description, rather than true abscesses. The roentgen ray enables us to discriminate between areas of differing density. In a strict sense an abscess cannot be demonstrated by a roentgenologic investigation. A score or more of cases have come to my knowledge in which important mental and nervous diseases have been attributed to dental infection, and in which the teeth had been removed with results in some instances so harmful as to make me feel that the procedure was almost a criminal one. Dr. Cotton, one of the leading psychiatrists of the country, attributes many and diverse forms of insanity to dental infection. The late Dr. August Hoch, in a critical review of one of Dr. Cotton's articles, clearly points out the logical defects in the presentation. Under the influence of the propaganda of focal infection, to use the expression of Dr. Peterson, the colons of epileptics bid fair to be reduced to semicolons by operation. The appendix will soon no longer be a vestigial illustration, and the tonsil, protrusive and submerged, is sharing the fate of the ovary in our early experience. A nose and throat specialist not long ago gravely informed me that he thought of preparing a statute to be presented to the state legislature making compulsory the extirpation of the tonsils of children after reaching a certain age on the theory that prevention is better than cure. On the same principle may not our exodontist friends be called in for their exterminating activities, and thus free the rising generation of teeth which in the course of time may have their roots infected and abscessed? I protest against the too free use of the therapeutics of organic mutilation. If the craze for violent removal goes on, it will come to pass that we shall have a gutless, glandless, toothless and perhaps, thanks to psychology and surgery, a witless race.

Dental Therapeutics Based on Clinical and Roentgen-Ray Investigations

DR. WILLIAM MIDDLETON FINE: As a dentist I am forced to believe that too many teeth are extracted in the expectation that their removal will cure systemic disturbances. Because it is possible to demonstrate the same micro-organisms in pulpless teeth and in arthritic joints, it should not be stated that the teeth are invariably the primary cause of the infection. The extraction of badly decayed teeth with root abscesses, or their restoration to health and usefulness, removes one of the contributing factors in the cause and development of many diseases. I do not share the belief that all nonvital teeth should be removed. Our bodily protective processes prevent well treated teeth, without living pulps, being the direct cause of disease. Talbot would lead us to believe that all the shadows in roentgenograms of dead teeth are not abscesses, and that these teeth should not be extracted ruthlessly. I agree with those who advise the extraction of dead and diseased teeth after a thorough attempt to effect a cure has failed or is doubtful. It is more than likely that 75 per cent. of the shadows in the roentgenograms at the apical ends of teeth have been caused by irritation from mechanical treatment and the use of drugs in dental operations, and hence these teeth are removed unjustifiably. I have seen teeth that roentgen-ray examination indicated were abscessed—as some men would say—remain fifteen years or longer without any symptom of disease, local or general. I received recently three cards from men announcing that they were giving up general practice to specialize in extraction of teeth. We do not need three new extractors every week.

Present Status of Oral Sepsis in Relation to Systemic Disease

DR. JAMES M. ANDERS: The importance of the relation of tooth root infection to systemic diseases cannot be overemphasized from the point of view of study and investigation. Our knowledge of the flora of the mouth, as related to special affections, is still imperfect. A closer cooperation between dentist and physician, along bacteriologic lines, is urgently needed to deal intelligently with affections of the teeth and alveolar processes, and to correct the haphazard sacrifice of the masticating apparatus. I recall a case, one of epilepsy, in a young woman, aged 19, in which, on the advice of a physician, all the teeth, although in good condition, were extracted, without, of course, any effect on the epilepsy. It behooves physicians and dentists to oppose the appalling present rate of removal of teeth. It has been shown that after the fortieth year of life, disseminated infections leading to constitutional disturbances are more frequent and of more serious character than in younger subjects. That many morbid medical conditions may be of oral origin is shown in their cure following the removal of the foci of oral infection. Among many such medical conditions are arthritis, endocarditis, pericarditis, myocarditis, gastritis, myocardial degeneration, chronic nephritis and exophthalmic goiter. Gingival and dental diseases, however, are rarely the sole cause of the morbid states for which gums and teeth may be held responsible. Before teeth are condemned, it is a matter of vital importance to determine that other than oral infectious foci are not present. Treatment based on roentgen-ray studies alone is unwise, since the deeper dental lesions may be simulated by other local conditions, and an abscess which actually exists may not be shown. The local and clinical features are to be noted carefully, and extreme caution should be observed in ascribing a systemic infection to the mouth condition. Bacteriologic study is essential in oral infections. Sanitary oral cavities are potent factors in limiting the incidence and spread of communicable diseases.

Roentgen-Ray Studies of Dental Defects

DR. HENRY K. PANCOAST: The roentgenologist is not able to judge of the direct connection between dental conditions and their supposedly resultant systemic conditions. This is the work of the internist. Not all "clear areas" are due to abscesses at the roots of teeth. Some may be due to old infections, others to chemical irritants. If read properly, however, most of these "clear areas" represent active abscesses. I am opposed to the wholesale extraction of teeth. In many instances it is possible to treat abscessed teeth successfully and have good service from these teeth afterward. An abscess may be present at the root of a tooth and not show in the roentgenogram, but that is a rare occurrence. Experience in the interpretation of the roentgenograms is more important than the technic, and such interpretation is best carried out by the dentist and the roentgenologist in collaboration.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

January, 1920, **159**, No. 1

Some Practical Points in Prostatic Surgery. J. B. Deaver, Philadelphia.—p. 1.
*Surgical Renal Tuberculosis: Prognosis. W. F. Braasch, Rochester, Minn.—p. 8.
Diagnostic Significance of First Sounds of Heart. Le Roy Crummer, Omaha.—p. 20.
Diabetic Service at U. S. Army General Hospital, No. 9, Lakewood, N. J. F. M. Allen and J. W. Mitchell, New York.—p. 24.
Studies in Bone Growth: An Experimental Attempt to Produce Pseudarthrosis. F. H. Albee, New York.—p. 40.
*Points in Pharmacology of Certain Drugs Used for Stomach Effects. W. A. Bastedo, New York.—p. 53.
*Roentgen-Ray Sign of Perinephritic Abscess. M. H. Fussell and H. K. Pancoast, Philadelphia.—p. 67.
*Effects of Restricted (So-Called Ulcer) Diets on Gastric Secretions and Motility. B. B. Crohn and J. Reiss, New York.—p. 70.
Clinical Experience with Sahli's Sphygmobolometer. N. B. Potter, Santa Barbara, Calif.—p. 93.
*Rapidity and Persistence of Action of Digitalis on Hearts Showing Auricular Fibrillation. G. C. Robinson, St. Louis.—p. 121.

Surgical Renal Tuberculosis.—Coincident active pulmonary tuberculosis was found by Braasch in approximately 5 per cent. of his patients, of whom more than 60 per cent. recovered following nephrectomy. Involvement of genitalia was present in at least 73 per cent. of male patients but did not seem to affect the ultimate recovery. Frequency of spontaneous healing of lesions in the prostate and seminal vesicles contraindicates their removal by subsequent operation. Evidence of tuberculosis involving the bones and joints was noted in 6 per cent. of the cases; one half of the lesions were active. The late mortality was 5 per cent. from which it may be inferred that the presence of such complications may be an index of increased resistance. Spondylitis, usually healed, was present in 5.7 per cent., with a mortality of 12 per cent. Tuberculous adenitis was present in nineteen patients (6.4 per cent) and the low mortality (10 per cent.) is suggestive of a heightened resistance. The operative mortality is a negligible factor; the late mortality (five years or less after operation) is approximately 20 per cent.; failure to effect complete cure is approximately 20 per cent.; this leaves a prognosis of recovery in 80 per cent. and of a complete cure to be expected in fully 60 per cent. of patients.

Pharmacology of Certain Drugs.—A number of drugs were studied by Bastedo and some of his findings in the use of the more important ones were as follows: In the ordinary hyperacidity case, with cessation of secretion at the usual time, atropin or belladonna, in maximum doses, either by mouth or hypodermic, had no useful effect on acidity or secretion. In hyperacidity cases atropin had no useful effects in any dosage. In continuous hypersecretion cases it may check the secretion after the digestive period, but it does this in maximum doses only. In pylorospasm it may be useful, but in maximum doses only. In the doses usually employed, it is wholly without effect on the secretory or the motor function of the stomach. In cases of achylia gastrica, whether or not accompanying pernicious anemia, a deficiency of acid may be partially overcome by hydrochloric acid medication. For digestive purposes, hydrochloric acid should always be accompanied by pepsin. In the achylias with diarrhea, acid promises a more noticeable result than in the achylias without diarrhea. When acid produces sourness and stomach irritation, its use should not be continued. To avoid acidosis alkalies should be given during the same period, though not at the same time as the acid, the amount required being judged by the effect on the urine reaction. A bitter is useful as an appetizer for those with subnormal nutrition, as in convalescence from acute illness, provided, that it is taken not more than five or ten minutes before the time for eating. It acts in achylia gastrica as well as in cases with gastric secretion. In subacidity it promotes the secretion of gastric juice. It should be administered in just sufficient dose to give a strong bitter taste, and not in amounts large enough to have a depressant action in the stomach. If the patient is in a state of normal nutrition, but psychically disturbed about eating, it will be useless. If the appetite is already normal the bitter may not only fail to increase appetite but may even lessen it. If the stomach and bowels are deranged, bitters may nauseate. The effect on appetite is solely the local one on the taste buds, therefore, it cannot be obtained if the bitters are hidden in capsules or coated pills.

Roentgen-Ray Diagnosis of Perinephritic Abscess.—Cases are cited by Fussell and Pancoast to show that the roentgen ray will aid in the diagnosis of perinephritic abscess. In the first case cited, this fluid was demonstrated while the patient was standing in the fluoroscope. The shoulders of the patient were grasped and the patient's body moved quickly two or three times from side to side. Watching the fluoroscopic picture showed a distinct wave in the supposed fluid. The renal region was opened and a huge sac of pus was demonstrated within the capsule of the kidney.

Effects of Diets on Gastric Secretion.—The study made by Crohn and Reiss shows that medical treatment, consisting of restricted diet and rest in bed, causes the cessation of hypersecretion in 45 per cent. of cases, a fair proportion; clinical improvement takes place as often in cases with persistent hypersecretion as in those relieved of their excessive flow of gastric juice, and is apparently not dependent on it. Cases that fail to show clinical and chemical improvement are of two kinds, patients with advanced indurated ulcers which are resistant to treatment and those with a marked neurosis. The first class can be reduced in number by more persistent and more protracted treatment. The second group requires the expert care of a neurologist, often of a psychanalyst. Mistakes in diagnosis undoubtedly form a third group of not inconsiderable proportion. The beneficial effects of medical treatment are seen in those cases of hyperacidity, hypersecretion and pylorospasm accompanying latent cholelithiasis or chronic appendicitis, as well as in ulcer cases or functional secretory disturbances.

Action of Digitalis on the Heart.—This paper was abstracted in THE JOURNAL, Aug. 30, 1919, p. 715.

Archives of Internal Medicine, Chicago

Jan. 15, 1920, **25**, No. 1

*Harmful Effects of Shallow Breathing with Special Reference to Pneumonia. J. Meakins, Montreal.—p. 1.
*Physiology of Stomach. A. C. Ivy, Chicago.—p. 6.
*Effect of Roentgen Rays on Metabolism of Cancer Patients. R. N. DeNiord, B. F. Schreiner and H. H. DeNiord, Buffalo.—p. 32.
*Cerebrospinal Fluid in Multiple Sclerosis. J. E. Moore, Baltimore.—p. 58.
*Cavity Formation and Annular Pleural Shadows in Pulmonary Tuberculosis. J. A. Honeij, New Haven, Conn.—p. 63.
Rat Bite Fever: Report of Case. A. Arkin, Morgantown, W. Va.—p. 94.
Protein and Lipin Contents of Blood Serum in Nephritides. M. Kahn, New York.—p. 112.

Shallow Breathing and Pneumonia.—A number of cases of pneumonia were investigated by Meakins in order to determine the quantity and quality of the expired air. It was found that as the respiratory rate increased there was a gradual decrease in the volume per respiration, but the total ventilation per minute showed a conspicuous increase. Meakins believes that the conclusion is justified that the anoxemia occurring in acute lobar pneumonia is the result of the rapid and shallow breathing typical of this condition.

Physiology of Stomach.—Ivy reports the results of his studies on gastric ulcer, including studies on the pathologic physiology of the stomach and duodenum in the condition of ulcer of these parts of the gastro-intestinal tract.

Roentgen Rays and Cancer.—Of forty-one cases studied by DeNiord and his associates, thirty-four, or 83 per cent., showed a varying excess of total fat in the blood before exposure to the roentgen rays. One-half hour after exposure to the roentgen rays, the first findings were increased in thirteen cases, and decreased in twenty-eight cases. Twenty-four hours after treatment with the roentgen ray, the first findings were increased in six cases and decreased

in thirty cases. Thus, the total fat content was diminished in 83 per cent. of his series of cases after exposure to the roentgen ray, and in some cases the decrease was preceded by a slight rise of the total fat quantity. Urea, urea nitrogen and creatinin showed nothing characteristic of the cancer patient. The moderate uric acidemia which exists for a short period of time after exposure to roentgen rays the others claim is the result of nuclear degeneration, but is not especially characteristic of malignancy. The sodium chlorid content of cancer patients is altered neither by the presence of the tumor nor the exposure to roentgen rays. The cholesterol, fatty acids and total fats are generally increased in cases of malignancy. Cholesterol is increased in the blood, but this is not in proportion to the duration of exposure to the roentgen ray or varied as to the type of tumor. The increase of cholesterol in the blood is probably due to cellular autolysis with liberation of cholesterol, induced by the action of the roentgen rays. Fatty acids and total fats are consistently high in the blood of carcer patients and this increase is reduced by the roentgen rays. The authors do not give any reason or hypothesis for the reduction, as they are at present carrying on further studies along this line. The final conclusion arrived at is that there is nothing in the behavior of the blood sugar or diastatic activity that is diagnostic of cancer. However, the roentgen rays activate the diastase for a short period of time to a greater than normal activity. The plasma and corpuscle percentages were unaltered by the effect of the rays, hence are of no diagnostic value in cancer.

Cerebrospinal Fluid in Multiple Sclerosis.—The cerebrospinal fluid findings in twenty-eight cases of multiple sclerosis are reported by Moore. In twenty cases the diagnosis is clinically certain; in the other eight cases it is clinically doubtful. In the first group, the findings are (*a*) negative blood and spinal fluid Wassermann (all cases); (*b*) pleocytosis (eight cases); (*c*) positive globulin (eighteen cases); (*d*) paretic gold curve (eighteen cases). In the second group the findings are the same, except for the gold curve, which was syphilitic in three cases and negative in five cases. Together with the clinical evidence, it is believed that the spinal fluid picture is fairly constant, and that, other things being equal, such a picture is a strong argument in favor of a diagnosis of multiple sclerosis. In its absence the diagnosis becomes at least doubtful.

Pulmonary Tuberculosis.—There are three conditions, Honeij says which at times may be confused and which make a differential diagnosis difficult or often impossible. These include (*a*) true cavitation in pulmonary tuberculosis, with and without fibrous walls; (*b*) true pleural annular shadows, with and without pulmonary disease; (*c*) false annular shadows of intrapulmonary bronchial origin, occurring in early pulmonary tuberculosis and other chest conditions. These three conditions are illustrated. A clear understanding of the pathologic processes involved, thorough appreciation of the different clinical signs is needed, and since, in a broad sense, physicians are less interested in the presence or absence of cavitation than in its effect on diagnosis, treatment and prognosis, it is essential carefully to consider other acute or chronic lung lesions in conjunction with the direct evidence of cavitation.

Arkansas Medical Society Journal, Little Rock

January, 1920, **16**, No. 8

Infection Exhaustion Psychoses. C. C. Kirk, Little Rock.—p. 157.
Attitude of Obstetrician to Illegitimate and Mother. G. A. Warren, Black Rock.—p. 158.
Pruritus Ani. E. H. Terrell, Richmond, Va.—p. 162.

Boston Medical and Surgical Journal

Jan. 29, 1920, **182**, No. 5

Calorie as Unit in Figuring Milk Modifications. T. J. Putnam, Boston.—p. 107.
Experience with Schick Test and Toxin-Antitoxin; Plea for Use in Extinction of Diphtheria. T. E. Lilly, Shirley, Mass.—p. 110.
Psychoses Accompanying Influenza. E. W. Fell, Cincinnati.—p. 113.
Treatment of Gonorrhea in Male. A. H. Crosbie, Boston.—p. 116.
*Tissue Injury an Important Factor in Development of Tuberculosis. H. F. Gammons, Dallas, Tex.—p. 119.

Injury of Tissues and Tuberculosis—Gammons reports four cases in which he believes that injury was an important factor in determining the localization of the tubercle bacilli. Two of the patients fell and injured the knee. Several years later tuberculosis of the knee was diagnosed. In the third case, the patient was kicked by a horse in the vicinity of the right ilium. An abscess formed later and the pus was positive for tubercle bacillus Tuberculosis of the ilium was found The same patient injured the right ankle It, too, became tuberculous. The fourth patient sustained a contusion of the right hand. Tuberculosis of the small bones developed. All of these patients also had a pulmonary tuberculosis.

Indiana State Medical Ass'n Journal, Fort Wayne

Jan. 15, 1920, **13**, No. 1

*Value of Roentgen Ray in Diagnostic Work of Internist. G. W. McCaskey, Ft. Wayne.—p. 1.
Some Fractures of Pelvis. C. Haywood, Elkhart.—p. 8.
*Relative Merits of Surgery, Radium and Roentgen Ray in Treatment of Uterine Fibroids. E. E. Padgett, Indianapolis.—p. 12.
Conservative Surgery. O. O. Melton, Hammond.—p. 14.

Value of Roentgen Ray in Diagnostic Work.—While McCaskey appreciates the value of roentgen-ray examinations and other aids to diagnosis, he emphasizes the fact that these methods never make a complete or rational diagnosis but are simply factors, albeit sometimes indispensable factors, in the general diagnostic judgment. He fears that roentgenologists are often pressingly solicited by physicians for specific diagnostic judgments, and that they too often yield to the importunity when they should make it plain that their duty is done when they give an objective description of their findings. So common has it become for roentgenologists to attempt to arrive at diagnostic conclusions from their studies alone, that it is sometimes difficult to get from them the objective description that one desires, either alone or accompanied by a diagnostic impression. Instead, the reports of "chronic infectious arthritis," "pulmonary tuberculosis," or some other diagnosis come in. McCaskey believes that this unsatisfactory state of affairs will soon be remedied so that roentgenology and internal medicine will reciprocally benefit one another to the utmost.

Surgery, Radium and Roentgen Ray in Treatment of Uterine Fibroids.—This paper was abstracted in THE JOURNAL, Nov. 1, 1919, p. 1390.

Journal of Biological Chemistry, Baltimore

January, 1920, **41**, No. 1

Crystalline Uridinphosphoric Acid. P. A. Levene, New York.—p. 1.
*Determination of Saccharin in Urine. G. S. Jamieson, Washington, D. C.—p. 3.
Thermoregulator with Characteristics of Beckman Thermometer. R. B. Harvey, Washington, D. C.—p. 9.
Determination of Hydrogen Ion Concentration. J. W. M. Bunker, Detroit.—p. 11.
*Identification of Citric Acid in Tomato. R. E. Kremers and J. A. Hall, Madison, Wis.—p. 15.
Structure of Yeast Nucleic Acid. V. Ammonia Hydrolysis. P. A. Levene, New York.—p. 19.
Quantitative Estimation of Indol in Biologic Medium. H. F. Zoller, Washington, D. C.—p. 25.
*Availability of Carbohydrate in Certain Vegetables. W. H. Olmsted, St. Louis.—p. 45.
*Alkaline Reserve Capacity of Whole Blood and Carbohydrate Mobilization as Affected by Hemorrhage. A. L. Tatum, Chicgao.—p. 59.
*Hemoglobin. I. Optical Constants. W. H. Welker and C. S. Williamson, Chicago.—p. 75.
Fat-Soluble Vitamin. III. Comparative Nutritive Value of White and Yellow Maizes. H. Steenbock and P. W. Boutwell, Madison, Wis. —p. 81.
*Protein Requirement of Maintenance in Man and Nutritive Efficiency of Bread Protein. H. C. Sherman, New York.—p. 97.
Effect of Iodids on Autolysis of Liver Tissue. P. G. Albrecht, Chicago.—p. 111.
Chemical Study of Blood of Several Invertebrate Animals. R. G. Myers, Palo Alto, Calif.—p. 119.
Chemical Study of Whale Blood. R. G. Myers, Palo Alto, Calif.—p. 137.

Determination of Saccharin in Urine.—The method described by Jamieson is based on the quantitative extraction of the saccharin with ether from the acidified urine which had been previously treated with normal lead acetate and filtered. After acidifying with hydrochloric acid, the saccharin is extracted by ether, the ether removed by evapora-

tion, and the saccharin extracted from the residue with ether. The ether is removed and the resulting residue is fused with sodium carbonate and the sulphur determined as barium sulphate. The amount of saccharin is calculated from the sulphur found after making a correction for the blank. The experimental results obtained by the analysis of urines, to which known amounts of saccharin had been added, show that the method is capable of giving satisfactory results, providing that the directions are followed exactly as described in every detail.

Citric Acid in Tomato.—The presence of citric acid in tomato juice was shown by Kremers and Hall by means of its triphenacyl ester.

Carbohydrate in Certain Vegetables.—Vegetables usually used in low carbohydrate diets for diabetic patients were analyzed by Olmsted by the use of diastase and copper reduction, and by feeding to phlorizinized dogs. The results are given in detail.

Effect of Hemorrhage on Alkaline Reserve and Blood Sugar.—The results of the experiments described by Tatum appear to indicate that hemorrhage produces a rise in blood sugar by changes in the state of acid-base balance in body cells, which state is fairly well reflected in corresponding changes in the general circulation. The chief seat of action is probably the liver, for this is the location of glycogen storage most readily affected.

Hemoglobin as Means of Identifying Species.—From the results obtained by Welker and Williamson, it would appear that there is not sufficient difference in the absorption coefficients of the hemoglobin of various species to serve as a means of identification of the species. This finding confirms the conclusions of most previous investigators.

Protein Requirement of Maintenance.—Sherman states that even when the protein of the food is almost entirely derived from bread or other grain products, with a diet adequate in energy value, a daily intake of about 0.5 gm. of protein per kilogram of body weight is sufficient to meet the actual requirements of maintenance in healthy men and women. While, if numerous older experiments, having a tendency to high results, are included, the average is somewhat less than 0.66 gm. of protein per kilogram of body weight. A standard allowance of 1 gm. of protein per kilogram of body weight per day appears, therefore, to provide a margin of safety of from 50 to 100 per cent., as far as the requirements of adult maintenance are concerned. It is plainly desirable in all cases, that grain products be supplemented by milk products, and it is clear that in providing for needs of growing children and of pregnant or nursing mothers the proportion of milk in the diet should be more liberal than it need be when only maintenance is concerned; this both because of the superior amino-acid make-up of the milk proteins and to provide amply for the mineral elements and vitamins as well.

Journal of General Physiology, Baltimore

Jan. 20, 1920, **2**, No. 3

Action of Strychnin and Nicotin on Neuromuscular Mechanism of Asterias. A. R. Moore, New Brunswick, N. J.—p. 201.
Studies on Bioluminescence: Action of Acid and of Light in Reduction of Cypridina Oxyluciferin. E. N. Harvey, Princeton, N. J.—p. 207.
*Studies on Enzyme Action: Saccharogenic Actions of Potato Juice. G. McGuire and K. G. Falk, New York.—p. 215.
Photochemical Nature of Photosensory Process. S. Hecht, Omaha. —p. 229.
Free Energy of Biologic Processes. G. A. Linhart, Barkeley, Calif. —p. 247.
Apparatus for Measurement of Oxidase and Catalase Activity. R. B. Harvey, Washington, D. C.—p. 253.
Influence of a Slight Modification of Collodion Membrane on Sign of Electrification of Water. J. Loeb, New York.—p. 255.
Influence of Concentration of Electrolytes on Some Physical Properties of Colloids and of Crystalloids. J. Loeb, New York.—p. 273.
Quantitative Laws in Regeneration. J. Loeb, New York.—p. 297.

Saccharogenic Action of Potato Juice.—The saccharogenic enzymes present in potato juice were studied by McGuire and Falk. The actions were followed on the substances present in the juice and on added sucrose, maltose and soluble starch. Sucrase and amylase were found to be present in the juice. No indication of a maltase was obtained. The sucrase showed optimum conditions for action at *p*H 4 to 5, the amylase at *p*H 6 to 7, both on the starch present in the juice and on added soluble starch. The action of a yeast sucrase preparation on the juice showed the presence of sucrose (or raffinose) in a concentration of the order of magnitude of 1 per cent

Journal of Industrial Hygiene, Boston

January, 1920, **1**, No. 9

*Syphilis in Railroad Employees. J. H. Stokes and H. E. Brehmer, Rochester, Minn.—p. 419.
Proper Executive Function of Industrial Physician. D. R. Kennedy and R. M. Neustadt, Philadelphia.
Prevention of Fatigue in Manufacturing Industries. R. A. Spaeth, Baltimore.—p. 435.
Organizing an Industry to Combat Influenza. C. E. Turner, Boston. —p. 448.
Home Work. Emma Duke, Washington, D. C.—p. 452.
Sanitation of Industrial Water Supplies. G. M. Fair, Cambridge, Mass.—p. 457.

Frequency of Syphilis Especially in Railroad Employees.—A general medical examination of 1,763 patients of the Mayo Clinic showed that 3.1 per cent. had syphilitic infections obvious enough to be detected without the use of the routine Wassermann test. The lowness of these figures Stokes and Brehmer contend, reflects, to some extent, the weakness of clinical judgment in the recognition of this disease as compared with current figures based on the routine Wassermann test. Part of the lowness of these figures is attributable to the large farming element in the clientele of the clinic and to the low incidence of venereal diseases in the states from which most of the patients are drawn. Of the railroad employees examined, 11.7 per cent. had syphilis. The disease was eight times as frequent in them as in farmers (1.5 per cent.), three times as frequent in them as in business men (3.8 per cent.), and twice as frequent as in laborers (6.1 per cent.). The doubtful value of the history of the infection and the blood Wassermann test in the recognition of these cases is shown by the fact that 24 per cent of the patients gave no history of infection other than gonorrhea; 62.5 per cent. had observed no secondary manifestations, and 53 per cent. were completely Wassermann negative on the blood. On the other hand, 64 per cent. of those whose spinal fluids were examined showed positive findings. Of the diagnoses, 58.7 per cent. were contributed by laboratory procedures; 41.3 per cent. were identified by routine physical examination. Of the men examined, 79.5 per cent. had syphilis of the nervous system; 18.7 per cent. had cardiovascular syphilis. Pupillary abnormalities, muscular paralyses and fundus changes were present in 62.5 per cent. of the cases. Of the persons examined, 65.1 per cent. showed abnormal knee reflexes, and similarly high percentages prevailed for the other simpler details of the neurologic examination. Definite mental symptoms were present in 38.4 per cent. These findings suggest that the routine railroad medical examination is insufficient to protect the public from the dangers of syphilis in men concerned in the operation of the trains. Three suggestions are made with a view to increasing the efficiency of the railroad medical examination, with respect to the recognition of syphilis: First, routine Wassermann tests should be performed on all employees between the ages of 17 and 25 by a competent state board of health laboratory, and repeated on all employees reaching 32 years of age. Second, there should be annual effective examination of men between the ages of 25 and 40, rather than of men over 50. Such examinations should include more attention to pupillary reactions than is at present given, and should employ those fundamentals of the neurologic examination, such as tests of the deep reflexes, Romberg, etc. These can readily be performed by competent general examiners. Third, formal educational propaganda should be undertaken by railroad medical departments for the education of medical examiners and employees alike to the great significance of syphilis in industrial insufficiency and personal ill health.

Journal of Medical Research, Boston

November, 1919, **41**, No. 1

*Studies on Rocky Mountain Spotted Fever. S. B. Wolbach, Boston.

Rocky Mountain Spotted Fever.—It is impossible to abstract briefly the results of the extensive and detailed study made by Wolbach. All phases of the subject are discussed. The conclusions as to the parasite itself are these: Three definite morphologic types of the spotted fever parasite can be recognized: (1) An extranuclear bacillus-like form without chromatoid granules, relatively large and only present in ticks during the initial multiplication of the parasites; (2) a relatively small rod-shaped form with chromatoid granules, probably the same form seen within nuclei in sections of ticks, and rarely in smooth muscle cells in the blood vessel of mammals; and (3) a relatively large lanceolate paired form present in ticks and in the blood and lesions in mammals. This lanceolate form is characterized by its "chromatoid" staining reaction, and according to the evidence at hand, is the form in which the virus is passed between the tick and mammalian hosts. The other two forms described are multiplicative stages, and can only be demonstrated occasionally and with difficulty in mammalian hosts. The name *Dermacentroxenus rickettsi* is proposed by Wolbach for this parasite.

Journal of Urology, Baltimore

August, 1919, **3**, No. 4

*Operative Treatment of Seminal Vesiculitis. J. H. Cunningham, Boston.—p. 175.
*Etiology of Vesical Diverticulum. F. Hinman, San Francisco.—p. 207.
Histologic Study of Ureter. Y. Satani, Baltimore.—p. 247.
Colliculus Seminalis at Birth: Origin, Development and Zonal Distribution of Its Gland Tubules. E. M. Watson, Buffalo.—p. 269.
Simple Apparatus for Continuous and Automatic Bladder Irrigation. F. Hinman, San Francisco.—p. 281.

Operative Treatment of Seminal Vesiculitis.—Cunningham discusses the relationship between infections of the prostate and the seminal vesicles and arthritis, and the surgical treatment of these infections.

Etiology of Vesical Diverticulum.—In Hinman's opinion, vesical diverticulum is the result of anatomic, pathologic and mechanical factors in the vast majority, if not all, instances, and in this sense is always an acquired condition. A mild and chronic urinary obstruction, in association with the necessary anatomic or pathologic predisposing conditions of the bladder wall, is particularly conducive for the development of diverticulums. Median bar formation is one of the most frequent types of obstruction.

Kentucky Medical Journal, Bowling Green

January, 1920, **18**, No. 1

Semicentennial of Medico-Chirurgical Society of Louisville. L. S. McMurtry, Louisville.—p. 3.
Acute Mastoiditis. W. B. McClure, Lexington.
Surgery of Thyrotoxicosis. L. Wallace Frank, Louisville.—p. 10.
Modern Day Diagnosis. L. L. Solomon, Louisville.—p. 15.
Some Phases of Diseased Gallbladder and Bile Duct. H. H. Grant, Louisville.—p. 22.

Laryngoscope, St. Louis

December, 1919, **29**, No. 12

Intracranial Infections Complicating Mastoiditis. S. J. Kopetsky, New York.—p. 679.
Nature and Origin of Stammering. E. L. Kenyon, Chicago.—p. 700.
Enucleation of Tonsils; Local Anesthesia. E. G. Gill, Roanoke, Va.—p. 715.
Hoarseness Caused by Thyro-Arytenoid Interni Paresis, with Symptoms Simulating Acute Pulmonary Tuberculosis Due to a Sinus Infection. E. L. Myers, St. Louis.—p. 720.

Maine Medical Association Journal, Portland

January, 1920, **10**, No. 6

Treatment of Pneumonia. L. L. Powell, Portland.—p. 159.
Education and Recreation in Army. W. G. Haan, U. S. Army.—p. 178.

Medical Record, New York

Dec. 27, 1919, **96**, No. 26

Réné Theophile Hyacinthe Laennec. S. A. Knopf, New York.—p. 1039.
New Technic (Diet and Roentgen Ray) in Treatment of Cancer. F. R. Cook, New York.—p. 1042.
Christian Science Psychosis. E. H. Williams, Los Angeles.—p. 1048.
Proposed Compulsory Health Insurance Law. Its Injustice to Physicians, Dentists and Pharmacists. J. J. Kindred, River Crest, L. I.—p. 1050.
Posture in Defecation. L. D. Bulkley, New York.—p. 1053.

Jan. 3, 1920, **97**, No. 1

Hysterical Symptoms. T. A. Williams, Washington, D. C.—p. 1.
Value of Laboratory Examinations in Diagnosis and Prognosis in Otolaryngology. S. Oppenheimer and H. J. Spencer, New York.—p. 7.
Function and Clinical Uses of Pineal Gland. W. N. Berkeley, New York.—p. 12.
Heredity as Factor in Etiology of Neoplasms. V. H. Moon, Indianapolis.—p. 14.
*Deterioration of Cardiovascular Stimulants; Means of Preserving and of Increasing Their Therapeutic Efficiency. E. Zueblin, Cincinnati.—p. 16.

Preserving and Increasing Therapeutic Efficiency of Cardiovascular Stimulants.—Zueblin urges that proper instruction of the wholesale and retail druggists ought to be encouraged on the subject of deterioration of chemicals and pharmaceutical preparations. In Zueblin's experience, fermentative processes in the organic drugs cannot be discarded entirely as a possible cause of these changes. Whenever possible, he says, use fresh drugs, freshly prepared, they will serve the purpose better for securing help and improvement to the patients. The old and shopworn preparations, after a more or less prolonged existence of oblivion in the drawers or in the form of old solutions, will be called on in vain to save a patient's life. In his experimental work, Zueblin incidentally detected a possibility of increasing the therapeutic efficiency and electric radiation of drugs by a short exposure of various remedies to the passage of electric waves. The practical methods of such a process are still a subject of studies and experimentation, but this much can be said, that the "life period" of the drugs can be raised to several months, and even years. Equally, there seems to exist a possibility of imparting new life to dead pharmaceutic preparations and compounds, and by doing so to restore and increase pharmacodynamic activity.

Jan. 10, 1920, **97**, No. 2

Motility in Animal Organism. E. H. P. Ward, White Plains, N. Y.—p. 47.
Surgical Disorders of Digestion. W. D. Haines, Cincinnati.—p. 58.
What Has the War Taught Us of Tuberculosis? S. J. Maher, New Haven, Conn.—p. 60.
Heliotherapy in Tuberculosis. J. B. Dinnan, Meriden, Conn.—p. 62.
*Treatment of Influenza by an Apparently Specific Method. F. E. Park, Stoneham, Mass.—p. 66.

Treatment of Influenza.—Park injects intravenously sodium salicylate, soluble iron phosphate and beechwood creosote in lime water. Physiologic sodium chlorid solution is the vehicle used.

Minnesota Medicine, St. Paul

February, 1920, **3**, No. 2

The Clinician and Research. W. W. Herrick, New York.—p. 47.
Epidemic Lethargic Encephalitis. C. E. Riggs, St. Paul.—p. 49.
*Treatment of Urethral Caruncle. J. L. Crenshaw, Rochester, Minn.—p. 54.
Diagnosis and Treatment of Peripheral Nerve Injuries. A. F. Bratrud, Minneapolis.—p. 57.
Clinical Course and Pathology of an Obscure Osteitis Causing Loose Bodies in Joints. A. R. Colvin, St. Paul.—p. 65.
A Neisser: Syphilitic Outlook. A. A. Baker, Minneapolis.—p. 69.
Early Diagnosis and Treatment of Acute Inflammations of the Eye. E. W. Benham, Mankato.—p. 73.
Medicine, Forty Years Ago; Glances in Retrospect; Comparison with Later Periods. W. Courtney, Brainerd.—p. 76.
Diphtheria T-A (Toxin-Antitoxin). C. B. Drake, St. Paul.—p. 81.

Treatment of Urethral Caruncle.—Under cocain anesthesia, Crenshaw clamps the caruncle, and cuts it off close to the upper surface of the clamp. The cut surface is thoroughly seared with acid nitrate of mercury solution applied with a wooden applicator. All tags are removed in the same manner. Symptoms are relieved almost immediately.

Modern Hospital, Chicago

January, 1920, **14**, No. 1

High Hospital Building Proves a Success. E. Stotz.—p. 1.
Air Control and Reduction of Death Rate After Operations. F. Huntingdon, New Haven, Conn.—p. 10.
Entertaining Sick and Convalescent Children in Hospital and at Home. M. H. Barker, Worcester, Mass.—p. 15.
Plea for Education for Young Men as Nurses. B. F. Bailey, Lincoln, Neb.—p. 18.
New Brockton Hospital Building Represents Result of Three Years' Study. L. B. Packard, Brockton, Mass.—p. 20.
Management of Contagious Disease Hospitals. D. L. Richardson, Providence, R. I.—p. 30.
Development of Hospital Organization in Canada. M. T. MacEachern, Vancouver, B. C.—p. 33.

Modern Medicine, Chicago

January, 1920, **2**, No. 1

*Underlying Causes of Narcotic Habit. A. Lambert, New York.—p. 5.
Occupational Therapy and Vocational Guidance for the Tuberculous. H. A. Pattison, New York.—p. 10.
Medical Service of Illinois State Institutions Under New Code. A. L. Bowen, Springfield, Ill.—p. 17.
Standards of Public Maternity Care. H. Ehrenfest, St. Louis.—p. 27.
Application of War Surgery to Industrial Practice. D. Hinton, Philadelphia.—p. 38.
Physician and Surgeon in Industrial Crisis. O. P. Geier, Cincinnati. —p. 41.
Eye Injuries. F. C. Trebilcock, Toronto, Can.—p. 46.
Trachoma in Camps and Hospitals of U. S. Army; B. Chance, Philadelphia.—p. 60.
*Handshaking as Route of Infection. H. W. Hill, St. Paul.—p. 72.

Underlying Causes of Narcotic Habit.—These causes, Lambert says, must be sought for in the psychology of a personality unable or unwilling to face individial problems, difficulties, disappointments or defeats. In such cases an anodyne is demanded to bolster up the ego or to afford escape from painful experience. Solve the personal problem and the individual is freed from the need of narcotic forgetfulness.

Handshaking as Route of Infection.—The general conclusion of most practical observers has been that the route of hand infection is the great pathway of infection, and is responsible for perhaps 90 per cent. of all contact infection, medical or surgical, except the venereal diseases. While the handshake does not rank with kissing in directness, it is not confined, like kissing, to the exchange of nasal or oral discharges, but includes the discharges of the bowel and bladder. Moreover, the hands are so constantly infected and handshaking is so constantly repeated that, in the long run, Hill says, it probably eclipses the relatively less common and less promiscuous kissing in its sum total damage.

New York Medical Journal

Jan. 10, 1920, **111**, No. 2

Hysterical Vomiting. A. F. Hurst, London.—p. 45.
Errors in Present Day Abdominal Diagnosis. J. B. Deaver, Philadelphia.—p. 49.
Vaccine Antitoxin Method in Treatment of Diphtheria. F. M. Wood, Chicago.—p. 53.
Repairs Following Labor. W. E. Parke, Philadelphia.—p. 54.
Asthma Caused by Insufficiency of Pylorus. M. I. Knapp, New York. —p. 55.
Poland in World War from Medical Aspect. F. E. Fronczak, Buffalo. —p. 59.
Radical Operation for Cholesteatomatous Mastoiditis. O. Glogau, New York.—p. 64.
The Blood Pressure Vogue. D. Nathan, Norristown, Pa.—p. 67.
Sarcoid Tuberculosis of Skin. C. G. Cumston, Geneva, Switzerland. —p. 67.

Philippine Journal of Science, Manila

June, 1919, **14**, No. 6

Mechanical Properties of Philippine Bast-Fiber Ropes. A. E. W. King, Manila.—p. 561.
Pink Disease of Citrus Trees. H. A. Lee and H. S. Yates, Manila. —p. 657.

Southern Medical Journal, Birmingham, Ala.

January, 1920, **13**, No. 1

Work of Medical Department During War. M. W. Ireland, M. C., U. S. Army.—p. 1.
National Research Council. H. A. Christian, Boston.—p. 3.
Status of Amebic Dysentery: Diagnosis and Treatment. R. Lyons, New Orleans.—p. 4.
Otitis Media. L. T. Royster, Norfolk, Va.—p. 10.
Doubts, Differences and Difficulties in Diagnosis of Gastro-Intestinal Diseases. J. C. Johnson, Atlanta.—p. 14.
Facts and Fallacies Relating to Maternal Feeding of Infants. J. D. Love, Jacksonville, Fla.—p. 16.
Prevalence of Ameba, Cercomonas Intestinalis-Hominis, and Pellagrous Infections in the South. J. L. Jelks, Memphis.—p. 22.
Problems in Control of Acute Infectious Diseases in Army. F. F. Russell, M. C., U. S. Army.—p. 29.
*Sanitary Social Service Based on Experience with Bureau of Venereal Diseases. M. Board, Louisville.—p. 37.
Lessons from War. J. M. T. Finney, Baltimore.—p. 40.
Medical Profession in War: Its Sacrifices and Compensations: Humanity's Gains. J. L. Crook, Jackson, Tenn.—p. 46.
Fracture of Lower End of Humerus. C. A. Vance, Lexington, Ky. —p. 50.
*New Operation for Suspension of Uterus. F. G. Dubose, Selma, Ala. —p. 57.
Scientific Team Work in Diagnosis and Treatment of Diseases of Eye, Ear, Nose and Throat. E. H. Cary, Dallas, Tex.—p. 62.
Team Work in Practice of Otolaryngology. J. A. Stucky, Lexington, Ky.—p. 65.

Sanitary Social Service.—With more syphilis now in this country than tuberculosis; with blind asylums filled with children as a result of gonorrhea; with women unsexed and their nervous systems shattered as the result of gonorrhea, usually contracted from their husbands; with paresis, which a hundred years ago was a medical curiosity but which is now filling insane hospitals with cases of locomotor ataxia and cerebrospinal syphilis, constituting a great part of the work of the modern neurologist, is it not time, asks Board, that the doctor, the lawyer, the minister, the teacher, the Women's Federation and the legislative bodies awake to the appalling facts of this situation and begin in a rational, thorough manner the eradication of venereal disease?

New Operation for Suspension of Uterus.—DuBose describes his method as follows: A linen or silk thread, on a full curved needle, is carried through the broad ligament as a running stitch, close to and immediately underneath the round ligament, beginning at the internal abdominal ring, carried across the fundus of the uterus, engaging superficially under the peritoneal coat, passing underneath the opposite round ligament until the other internal ring is reached. The needle is unthreaded and a ligature carrier is passed through the aponeurosis of the rectus muscle about one inch from the abdominal incision, and on a level with the internal abdominal ring, through the musculature of the anterior abdominal wall until it emerges from the parietal peritoneum at the internal abdominal ring. The linen suture is threaded on the carrier and drawn through the abdominal wall. The same technic is carried out on the opposite side. Then both ends of the thread are caught, and the uterus is pulled up into the desired position. Two hemostats are applied to the thread; one on either side, where it emerges from the aponeurosis of the rectus muscle. The peritoneum is then closed, the aponeurosis of the rectus muscle is sutured, and while the forceps are still in position, the linen suspension thread is tied. The placing of the forceps as described prevents the drawing too tightly on the suspension suture, which would bring the uterus too far forward, and possibly so narrow the space between the uterus and abdominal wall as to result in hernia or obstruction. The hemostats are removed after the tying of the suspension suture. The closure of the abdominal skin incision is then completed.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

Jan. 10, 1920, **1**, No. 3080

*Surgical Aspects of Spinal Tumors. P. Sargent.—p. 38.
Public Health versus The State. B. G. M. Baskett.—p. 40.
Sclerodermia: Two Cases. F. H. Barendt.—p. 44.
*Meningitis Treated by Intrathecal Injections of Patient's Blood Serum. R. Waterhouse.—p. 45.
Forgetting: Psychologic Repression. A. Carver.—p. 46.

Surgical Aspect of Spinal Tumors.—Twenty-seven cases of true neoplasm of one sort or another, associated with cord symptoms, are analyzed by Sargent. Fifteen were cases of encapsulated intrathecal extramedullary tumors, all benign except one, a fibrosarcoma. In no case was the tumor situated above the fifth cervical or below the eleventh thoracic segment. The tumors were enucleated. Of these patients six are (or when last heard of were) doing their full ordinary work; one patient, 77 years of age, is in perfect health and vigor, and the other four are so far recovered that they may reasonably be regarded as successful cases. Of the four unsuccessful results, one (whose paralysis had existed for nine years before operation) remains virtually in statu quo, five and one half years after removal of the tumor. The remaining three patients died. In twelve of the twenty-seven cases the tumors were of a malignant character.

They were intrathecal extramedullary; intramedullary and extrathecal. In none of the twelve cases of malignant growth in this series was the exact nature of the case diagnosed before operation. The fact that the cord was being subjected to an increasing degree of compression led in each instance to the performance of an exploratory laminectomy, and in all but one the diagnosis of "tumor" was made before operation (one was thought to be a tuberculous caries); in all, too, the segmental level of the compression was correctly ascertained before operation. But in no instance could the exact position with relation to the cord and membranes, or the nature of the tumor be foretold. The operations were, therefore, primarily of an exploratory character. Two patients, one with a high cervical intramedullary tumor, and the other with a sarcoma of bone in the upper dorsal region, died within a few hours of the operation. Of the remaining ten patients, three were not benefited, seven were benefited to a variable degree. One patient lived seven years after operation and one lived six and one-half years after operation. Others were lost to further observation.

Autoserumtherapy in Meningitis.—Waterhouse's patient had cerebrospinal meningitis. The symptoms became aggravated and finally 20 c.c. of the patient's own blood serum were injected into the subarachnoid space by lumbar puncture after removal of the same quantity of cerebrospinal fluid. This procedure was repeated on the three following days with 12 c.c. of serum and on the fifth day 5 c.c. of serum were injected. Improvement set in from the time of the first injection and convalescence was rapid.

Jan. 17, 1920, **2**, No. 3081

Treatment and Management of Diseases Due to Deficiency of Diet: Scurvy and Beri Beri. W. H. Willcox.—p. 73.
Aims and Methods of Graduate Study. R. Rolleston.—p. 77.
Uses of Free Transplants of Fascia Lata in Surgery. G. G. Turner. —p. 79.
*Acute Abdominal Cases. J. L. Stretton.—p. 80.

Acute Abdominal Cases.—Stretton reports a case of pedunculated polypoid adenoma attached to the posterior wall of the stomach about 1 inch inside the pyloric orifice. The tumor was removed. The patient made an uneventful recovery. A second case was one of large hemorrhage into the wall of the cecum between the muscular and mucous coats. The result was what appeared to be a large cyst. During the appendectomy which was performed at the same time, the cyst burst and nearly two pints of blood escaped. The cause of the hemorrhage is believed to have been a strain endured during the moving of some heavy objects. The third case was one of ovarian cyst which contained 6½ gallons of fluid.

Dublin Journal of Medical Science

December, 1919, No. 576

*Cause of Eclampsia. H. Tweedy.—p. 225.
*Case of Congenital Syphilis. J. Moore.—p. 229.

Cause of Eclampsia.—The basis of Tweedy's theory is that ordinary food becomes poisonous during pregnancy, and when in this condition it gives rise to toxemia and eclampsia.

Congenital Syphilis.—Moore cites the case of a girl, aged 12 years, the victim of congenital syphilis, who was treated successfully with Donovan's solution (liquoris arseni et hydrargyri iodidi, 8 c.c.; syrupi aromatici, 24 c.c.; aquae, 210 c.c.), one-half ounce, taken three times daily, after meals. He says "in these days of salvarsan, neo-salvarsan, kharsivan, soamin, and other organic compounds too numerous to mention, and of the combined salvarsan and mercurial treatment of syphilis, we are perhaps too apt to forget older and no less effective means of combating and defeating the spirochete."

Edinburgh Medical Journal

January, 1920, **24**, No. 1

Influence of Edinburgh on M'Gill University. J. Meakins.—p. 5.
Binet Scale for the Blind. W. B. Drummond.—p. 16
*Beri Beri Among Chinese in France. A. R. Leggate.—p. 32.

Beriberi.—Two hundred and sixty-nine cases were observed by Leggate. Of these, 200 patients showed edema of the legs and body; forty-six of these showed no other symptom. One hundred and eighty-three had loss of deep reflexes, and of these, seven had no other symptom. One hundred and fifty-five had paresthesia, nine of these without any other symptom. Inability to rise from a squatting position without the aid of the hands or other assistance was a striking symptom in some of the cases. In the dry type of case, it was the rule—66 per cent.; in the wet type, it was the exception—6.5 per cent. When the edema was marked, Leggate used purgatives. A saturated solution of magnesium sulphate, with 15 minims of dilute sulphuric acid to the ounce of solution, was his favorite. An important point in the treatment emphasized by him is to discontinue the polished rice diet and to administer eggs, beans, yeast and peas.

Glasgow Medical Journal

January, 1920, **11**, N. S.

*Prenatal Tuberculosis. J. W. Allan.—p. 1.
*Is Fat Starvation a Causal Factor in Production of Rickets? H. S. Hutchison.—p. 8.
Sores, Analogous to Veld Sores and Barcoo Rot, Appearing Among Soldiers Working in Blue Clay and in Chalk. D. D. Logan.—p. 13.

Prenatal Tuberculosis.—Allan defends the proposition that a child may be born tuberculous; in fact, he believes that antenatal tuberculosis is more common than is generally supposed.

Fat Starvation as Cause of Rickets.—Hutchison's observations lead him to the belief that in rickets there is no fat starvation, and that the excessive loss of calcium in this condition is not brought about through the agency of fat. This conclusion is supported by the fact that the average daily excretion of soaps in rickets was 2.2 gm., as compared with 2.5 gm. in health. Fat could only remove calcium as an insoluble soap, and as there is no increase in soaps in rickets, there is evidently no connection between the calcium loss in rickets and the fat excretion.

Journal of Tropical Medicine and Hygiene, London

Jan. 1, 1920, **23**, No. 1

Bronchomoniliasis in Anglo-Egyptian Sudan and Egypt. A. J. Chalmers.—p. 1.
Vibriothrix Zeylanica (Castellani). L. Anigstein.—p. 7.

Lancet, London

Jan. 10, 1920, **1**, No. 5028

Surgery of Heart. C. Ballance. To be concluded.—p. 73.
Malaria in Egyptian Expeditionary Force. P. Manson-Bahr.—p. 79.
Diverticulitis. W. H. M. Telling.—p. 85.
*Feeding Infants on Dried Milk. V. Borland.—p. 89.
*Means of Lessening or Eliminating Alimentary Toxemia. R. Chetham-Strode and J. D. Benjafield.—p. 91.
Paratyphoid B Group. H. Schutze.—p. 93.

Feeding Infants on Dried Milk.—Borland suggests that it would be an infinitely better plan to feed a baby in relation to its weight than by calculating quantities of feeds according to age alone. This method has produced very satisfactory results in Willesden, where it has now been practiced for more than two years. The present scale is based chiefly on a full cream dried milk which has been modified to resemble human milk, but others not so modified have answered satisfactorily when given according to scale. The investigation was carried out primarily on sixty-nine babies of ages ranging from 3 weeks to 8½ months. The smallest feed which produced a satisfactory gain, the baby otherwise being in good health, was chosen from the clinic cards and noted. In this way 188 feeds at various weights were obtained. It has been Borland's practice to arrange breast feeding at intervals of three hours, three and one-half hours and four hours, according to the age of the child and the progress made. The four hourly intervals are begun as early as possible. In the case of the three hourly intervals the number of feeds given in the twenty-four hours is six, in three and one-half hourly intervals, and in four hourly intervals five feeds are given daily. It was found that by adding the number 9 to the weight, if below 7 pounds and the number 10 to the weight from 7 to 16 pounds, inclusive, the required number of level teaspoonfuls of dried milk to be given in twenty-four hours was obtained. Working tables are given.

Eliminating Alimentary Toxemia.—Assuming that a lactic acid fermentation in the large intestine is the condition to be aimed at in the control of an alimentary toxemia, Strode and Benjafield administer the carbohydrates in the form of coarse uncrushed oatmeal. This may be taken raw or cooked sufficiently to soften the outside of the grain, only leaving behind a hard core. The result is that the partially digested grain reaches the large intestine in the form of carbohydrate. The center of the grain is composed of unaltered starch, while the outer layers, which have been subjected to the digestive action of the juices of the mouth, stomach and small intestine, are composed of simpler molecules, the disaccharids and hexoses. Both these latter can rapidly be converted into lactic acid and carbon dioxid by a suitable bacterial flora. One of the authors has been combining this course of treatment with the ordinary symptomatic methods in his practice for the last fifteen years. Failures have been met with, but they have all been failures in that the lactic acid fermentation could not be obtained. In all cases where this fermentation has been established the condition of the patient has been materially improved. Cases are cited.

Quarterly Journal of Medicine, London

January, 1920, **13**, No. 50

*Cases of Hematuria of Unusual Origin. T. I. Bennett and C. H. S. Frankau.—p. 105.
*Action of Chlorin, Etc., on Bronchi. J. A. Gunn.—p. 121
Effects of Multiple Embolism of Pulmonary Arterioles. J. S. Dunn.—p. 129.
*Unilateral Alterations in Blood Pressure Caused by Unilateral Pathologic Conditions: The Differential Blood Pressure Sign. E. F. Cyriax.—p. 148.
Numerical Measurement of Dyspnea. G. H. Hunt and D. Dufton.—p. 165.
*Treatment of Chronic Cases of Gas Poisoning by Continuous Oxygen Administration in Chambers. J. Barcrof and D. Dufton.—p. 179.
Mustard Gas Poisoning. C. M. Wilson and J. M. Mackintosh.—p. 201.

Hematuria of Unusual Origin.—In the cases reported by Frankau, the onset was usually sudden, with fever rising to 100 or 102 F. The patient complained of pains in the shins and along the radial border of the forearms; headache was slight; there were often slight pains in the back. The respiratory, circulatory and alimentary systems showed only those changes which are common to all mild febrile diseases. In one case, the headache was so severe, and pain in the spine so marked, that meningitis could not be excluded on admission. A lumbar puncture was performed and a few drops of normal cerebrospinal fluid were collected; but in no other case were there symptoms or signs of any involvement of the nervous system. Sometimes, on the first day, invariably within a few days, there was marked hematuria; at the same time a slight dysuria was added to the other symptoms. In several cases it was the hematuria alone that led the patient to seek medical aid. After a few days, the hematuria disappeared, although, microscopically disintegrated red cells, pus cells and epithelial débris were still to be found in the urine. But the symptoms persisted, lumbar pain and dysuria became more prominent, and the shin pains were often sufficient to prevent sleep. A labial herpes was observed several times on about the fifth day. The initial temperature fell to normal, but rose again after, at most, a few days. Often there were sharp relapses, such as are commonly seen in cases of trench fever; in other cases the pyrexia developed into a hectic type, with morning remissions.

Action of Chlorin on Bronchi.—Generally, the results of experiments with chlorin showed that inhalation of 1:5,000 up to 1:1,000 produces an increased rate of respiration with a transient bronchoconstriction. This bronchoconstriction, Gunn believes, is produced reflexly by the first contact of the irritant vapor with the bronchial mucous membrane. It lasts such a short time that therapeutic measures to combat it would be unavailing. A subsequent sudden increase in the concentration of the gas produces thereafter an apparent slight and gradual bronchoconstriction, but from histologic observations it appears probable that this is due rather to edema of the bronchial mucous membrane than to contraction of the bronchial muscle.

Unilateral Alterations in Blood Pressure.—According to Cyriax, the differential blood pressure sign (differences between the readings in the two arms) is nearly always present in unilateral or bilaterally unequal traumatisms or operations. As regards the maximum pressures, differences of 10 mm. are found in about 83 per cent. and of 20 mm. or over in about 12 per cent. of all cases. As regards the minimum pressures, similar differences are found respectively in 81 per cent. and 20 per cent.

Treatment of Chronic Cases of Gas Poisoning.—Twenty-six patients were treated by the continuous administration of oxygen. The patients were placed in chambers in which the percentage of oxygen aimed at, and usually maintained, was between 40 and 50. The usual term of residence was five days, sixteen or seventeen hours of each day being spent in the chambers. The night was always spent in them. The effect on the red cell count was as follows: if the red cell count was markedly higher than 5 millions, it was reduced by residence in oxygen, usually to just about that figure; if the red count, as was often the case, especially with mustard gas, was not raised above 5 millions, residence in oxygen did not alter it. The subsequent history of cases differs: in some the red count tends to rise, in others it remains nearly normal at the end of two and one-half months. As the red count fell, there was usually a fall—but a much slighter one—in the hemoglobin. The color index, therefore, rose. An almost constant sign in the gassed cases studied has been a failure on the part of the pulse to return normally after exercise to its resting rate. This condition has been benefited by the oxygen treatment in nearly all cases; and in about half it was brought to—or almost to—the normal condition. Of fourteen patients treated, six suffered from nocturnal attacks of dyspnea. None of these had attacks in the chamber; three appeared to be cured permanently, and two others were permanently benefited. The patients all stated that they were able to walk faster and with less distress than before the treatment. In the second series of cases a definite test for dyspnea was introduced, in which the opinion of the patients was not involved. Of the six patients thoroughly tested, four increased the quantity of work which they could do with a given degree of breathlessness by over 20 per cent. and two others by over 10 per cent.

South African Medical Record, Cape Town

Dec. 13, 1919, **17**, No. 23

Syphilis. B. Bernstein.

Bulletin de l'Académie de Médecine, Paris

Dec. 9, 1919, **82**, No. 39

*Alcoholism and the Thyroid. Le Clerc.—p. 394.
*Treatment of Vincent's Angina. Capitan.—p. 396.
*Hospital Ships. Chevalier.—p. 399.
Dual Nature of Farcy. G. Chénier.—p. 403.

Alcoholism and Thyroid Agenesia.—Le Clerc reports three cases of defective development of the thyroid in children of drinking fathers. One patient was a man of 30 with myxedema, one a girl of 14, a mongolian imbecile, and the third a child with myxedema. The older children in the families seemed to have escaped the taint, but the younger ones all showed the effect of it more or less. He has never encountered any other cases of thyroid agenesia.

Treatment of Vincent's Angina.—Capitan has treated 200 cases of Vincent's angina with intramuscular injection of 6 c.c. colloidal arsenic, and states that it never failed to sterilize the lesions in twenty-four or forty-eight hours, and the cure was complete in four or five days. A second injection was only exceptionally required. Local treatment is not absolutely necessary.

Hospital Ships.—Chevalier is inspector general of the medical department of the navy, and he here describes the work of the various hospital ships bringing the wounded and sick from Flanders and Serbia and from the Mediterranean fronts. He urges that in building vessels for the merchant marine some should be designed so they could be rapidly transformed into hospital ships at need, the hospital equipment kept in readiness at some convenient point. (See also Paris Letter, p. 189.)

Dec. 23, 1919, **82**, No. 41

*Food Value of Different Grains. C. Achard and L. Gaillard.—p. 500.
*Prophylaxis of Bovine Tuberculosis. J. Lignières.—p. 505.
Tincture of Box in Intermittent Fevers. S. A. de Vevey.—p. 508.

Value of Flours.—Achard reports that to the usual food of rabbits were added 50 gm. of different kinds of flour. Six sets of five rabbits each were thus fed separately on wheat, rye, barley, corn or rice flour over long periods. No difference in weight was apparent in any of the sets fed on different flours and no difference in the mineral content of the bones. The only practical conclusion from the research is that the mineral content of the food does not decide the mineral content of the organs and skeleton. The ash was as large in the animals fed on rice as with any of the other flours, although rice has less than a third as much mineral elements as barley and rye.

Prophylaxis of Bovine Tuberculosis.—Lignières would sweep away all indemnities, etc., for tuberculous cattle, and place the loss squarely on the shoulders of the proprietor. This, he declares, is the only effectual way to stamp out bovine tuberculosis by making the loss from it so excessive that the proprietors will be forced to take steps to protect their herds against it. According to the present measures, the proprietors have comparatively little personal interest in stamping out the infection. When they find that unless they do this their losses will be excessive, a new order of things will be inaugurated. Three things are necessary for this: (1) The nullification of the sale of any animal found to be tuberculous. The animal to be returned immediately to the vendor; the latter to pay the expenses of transportation and refund the purchase money; (2) The public health service to investigate the herd from which the tuberculous animal came, and brand all tuberculous cattle found destined for any purpose except slaughtering. The vendor to stand the partial or total loss when meat is confiscated on account of tuberculous lesions. (3) No indemnity to be paid to the owner of the cattle except when an animal is ordered to be slaughtered on account of tuberculosis of the mammary glands, or when a mistake has been made in the diagnosis.

With these regulations in force, he states, the tuberculous animal would have to be kept at home, and hence could not start new foci. It would have very little commercial value, as it could not be sold for anything except butchering, and not even for this if the disease is far advanced. The financial loss would be so great that the proprietors would spare no pains to protect themselves. This would transfer the fight against bovine tuberculosis from the authorities to private interests, instead of the latter hampering and seeking to circumvent the authorities in the task. The proprietor would not have to make any declaration, and would not be molested by any one so long as he kept his tuberculous cattle at home. He can call on authorities to help him weed out the tuberculous animals, and these he can keep separate from the others and send to the slaughter-house at his convenience as the years pass, while the rest of his herd is kept safe from infection with tuberculosis. He can take his own time and means to eradicate tuberculosis from his herd, and none of his tuberculous cattle need be branded if he does not attempt to sell them for any purpose except butchering This prophylaxis based on private interests will act everywhere throughout the country at once, and will be kept up until bovine tuberculosis has disappeared. Lignières urges legislators to pass a law nullifying the sale of a tuberculous animal for any purpose except butchering, and providing for branding as described above.

Dec. 30, 1919, **82**, No. 42

*Ligation of Carotid for Traumatic Exophthalmos. A. de Lapersonne and Sendral.—p. 515.
*Hospital Hygiene and Influenza. A. Lesage.—p. 522.
Malaria and Dysentery Carriers Among the Demobilized. F. Barbary.—p. 524.

Ligation of Carotid for Traumatic Exophthalmos.—Slight exophthalmos was evident two days after the railroad accident fracturing the base of the skull, and neuroparalytic keratitis, ptosis, and intolerable subjective disturbances were combated by de Lapersonne with ligation of the carotid. The thrill and murmur disappeared but the subjective chug-chug persisted, and the left common carotid was ligated likewise after having been prepared by several weeks of training of the vertebral arteries to prepare them to substitute the ligated artery. For this the carotid was cautiously compressed with the fingers. At first this induced dizziness, jerking, and profound asthenia for several hours, but finally it could be borne for ten minutes at a time, so that a ligature was thrown around the left common carotid also, eight months after the accident and five months after the first ligature. For the first three days there was a feeling as of ice in the head, but all the symptoms soon became attenuated, and the young man was much pleased with the outcome. Twenty-two months later, he still has frequent headaches but is able to read and write without difficulty. Bending over brings on severe dizziness. This symptom is marked in another case of ligation of both carotids. Both of the men are satisfied with their physical condition but complain of impairment of the memory and early mental fatigue. The right exophthalmos in another man had developed seven months after a war wound, and at the twenty-third month had suddenly become aggravated, threatening the loss of the eye. Ligation of the right carotid put an end to all disturbances at once and permanently.

Hospital Hygiene.—Lesage cites experiences—especially with influenza—which confirm anew that individual isolation is the base of all hygiene in hospitals.

Journal de Médecine de Bordeaux

Dec. 25, 1919, **90**, No. 24

Substitution, Compensation and Vicarious Action in the Symptomatology after Injury of Nerves. A. Pitres.—p. 535. Conc'n.
*Reverdin Skin Flaps. W. Dubreuilh.—p. 545.

Technic for Reverdin Skin Flaps.—Instead of using a razor, as for Thiersch flaps, Dubreuilh lifts up the skin with a curved needle held at a right angle in hemostatic forceps, with the tip curving up He pricks the skin with this tip, and as the skin is thus lifted up he cuts out the lifted up portion with a sharp bistoury. The needle thus has a small disk of skin impaled on its tip and this disk is transferred to the defect to be covered. By this means quite a large defect can be rapidly covered with forty or fifty of these disks, about 2 mm. in diameter; larger than this it is hard to detach the scrap, and smaller than this the scrap may be lost when cut out. No anesthesia is necessary, the patient feels merely the prick of the needle. He applies the grafts about 4 or 8 mm. apart, and takes them from nearby. When all are in place, he covers the surface with numbers of small pieces of gauze, a few centimeters wide, placed individually, watering with artificial serum, and presses them down with his hand. The gauze dressing is changed in forty-eight hours but the lowest layer of gauze can be left untouched, watering copiously with physiologic serum. The flaps take hold by the sixth or seventh day. They heal as cicatricial tissue, with the danger of retraction, but they accomplish the healing in cases in which otherwise it would take much longer or be impossible. These minute flaps can be taken so easily and leave such insignificant gaps in the skin that, even if the procedure fails, not much harm has been done. In one case a roentgen dermatitis on the back, as large as a plate, had shown no tendency to heal during the year, but applying these needle grafts, to the more favorable points in turn, led to the complete healing of the lesion in two months. The lesion seems to feel a stimulating action from the grafts even at points where the latter do not touch.

Médecine, Paris

December, 1919, **1**, No. 3

*Progress in Hygiene and Infectious Diseases. L. Tanon.—p. 133.
*Peritonitis in Typhoid. F. Rathery.—p. 144.
*Diphtheria Bacilli Carriers. F. Arloing.—p. 149; Id. Stevenin.—p. 168.
Beriberi in France. H. Roger.—p. 151.
Lethargic Encephalitis. P. Halbron.—p. 155.
*Gonococcus Count as Guide to Treatment. L. Ramond.—p. 158.
Smallpox in France. M. Guilhaud.—p. 162.
Polyvalent Lipovaccine Against Typhoid. A. Sezary.—p. 164.

Recent Progress in Infectious Diseases.—Tanon specifies among other progress the knowledge of the complications of typhus, and the favorable results reported by a few workers with serotherapy. Among them are Nicolle and Blaizot with an antiserum from horses that had been injected with emulsions of spleen and suprarenals from inoculated guinea-pigs. Monvoisin during his war imprisonment treated typhus by intravenous injection of 1 or 2 c.c. of convalescents' serum. In his experience this reduced the mortality from 30 to 10.34 per cent. The best results were obtained with blood drawn the eighth day. The injections seemed harmless, and could be repeated if necessary. Lebailly and Poisson arrested an incipient epidemic by inoculating the thirty-four contacts by injecting subcutaneously 1 c.c. of horse serum or convalescent's serum, and 1 c.c. of serum from a guinea-pig developing the disease.

Peritonitis in Typhoid—Rathery refers to peritonitis from propagation without perforation, and reiterates that the slightest suggestion of peritonitis calls for complete immobilization, with ice to large areas of the abdomen, and absolute fasting; nothing should be allowed except subcutaneous injections of artificial serum. The slightest movement should be forbidden, and the chilling of the abdomen should be extensive and constant.

Treatment of Diphtheria Bacilli Carriers—Arloing expatiates on the effectual sterilization of the throat realized with insufflation of desiccated bactericidal antiserum prepared by injecting the horse simultaneously with diphtheric toxin and the bodies of the bacilli. The desiccated antitoxin is mixed with an inert powder and with gum tragacanth to make it adhere to the tissues. These insufflations are given three or four times a day, between meals, after gargling with an antiseptic solution. The nozzles of the atomizer are interchangeable and individual. In three weeks, and sometimes earlier, the diphtheria bacilli disappeared from the throat. He insists that this treatment is absolutely harmless and rapidly effectual. It is important to examine for bacilli anew a week after they have apparently permanently disappeared, as it is possible that they have been merely temporarily checked in their development. Stevenin comments on the misleading conclusions liable from the intermittency of positive findings in the smears. He has had good results recently with insufflation of desiccated *sérum antimicrobien*, insufflated three or four times a day in the pharynx and nasal fossae. Labbé and Canat have also reported good results with it.

The Gonococcus Count as Guide to Treatment.—Ramond reports the differential count of the cells and cocci in the urethral secretions from nine patients repeatedly examined. Nothing was found to throw light on the prognosis or treatment except that the gonococcus curve seems to indicate a partial local immunization in the course of the third week. This suggests that it might be well to wait for the end of the third week before giving balsamics. At this time they might usefully supplement the partial immunization going on, and thus get a chance for effectual action.

Presse Médicale, Paris

Dec. 6, 1919, **27**, No. 74

*Present Status of Our Knowledge of Ferments. H. Roger.—p. 741.
*Fracture of the Malleolus. E. Juvara (Bucharest).—p. 743.
*Diabetes Insipidus and Its Pituitary Origin. P. Pagniez.—p. 746.

The Ferments.—In this opening lecture of his course on experimental and comparative pathology Roger reviews the data accumulated in respect to ferments, and suggests that further study of those that preside over reductions and oxidations may explain the origin of many pathologic conditions and the mechanism of death.

Reconstruction of Fractured Malleolus.—Juvara gives illustrations showing the technic for osteosynthesis with fracture of the malleolus. The reconstruction of the bone in its normal outline is accomplished by driving a long, slender nail from below, slanting upward, far into the bone to hold the parts in normal apposition. Or two nails may be driven in close together, the tips diverging a little. One set of roentgenograms shows nails driven into both malleoli the fourth day after the fracture. The nails were pulled out the twenty-second day, and the cure was complete the thirtieth. In another case illustrated the nail was driven through the skin into the internal malleolus two days after the fracture, and it had healed completely by the twenty-fourth day. Both these patients were men. In other cases he drove two nails horizontally through the malleolus into the tibia, or axially into the fibula from below, or else merely tied a wire around the fractured bone after fitting the parts into place. One illustration shows the foot like a big pin-cushion with ee nails thus driven into the bone. No immobilizing apparatus is required and the foot can be moved from the second day, and this should be done as much as possible thereafter. The disappearance of the pain is the result accomplished first by the osteosynthesis. The first dressing is changed the second or third day as blood oozes from the nail holes. The secret of success is to reconstruct the bone in this way at once, as an actual emergency operation, immediately after the fracture. This prevents swelling of the region, and the pains disappear after the osteosynthesis. He uses ordinary iron nails, 1 mm. in diameter and 7 or 8 cm. long. The spongy bone of the malleolus takes the nails easily. Sometimes nailing the internal malleolus in this way is sufficient to hold the external in place without further intervention. The internal malleolus is exposed by a U incision, the base above, and the flap is turned back on the leg. The internal saphenous vein skirts the anterior margin of the malleolus and injury of this must be guarded against.

Pituitary Diabetes.—Pagniez analyzes five recent works on this subject published in Spain, Italy, France and this country. Many points are still obscure, he remarks, but two things seem to be certain, namely, that pituitary treatment has an immediate and specific inhibiting action on essential polyuria in man, and that any traumatic irritation of the nerve regions adjacent to the pituitary entails polyuria. In pituitary treatment we have now a remedy of considerable efficacy for the polyuria of diabetes insipidus, although its action is transient.

Dec. 20, 1919, **27**, No. 78

*Gas Cysts in the Abdomen. M. Letulle.—p. 781.
*Peripheral Vasoconstriction in Shock. R. Ducastaing.—p. 782.
Cultivation of Malaria Hematozoon. M. Chambelland.—p. 783.
Acute Appendicitis. C. Lenormant.—p. 784.

Gas Cysts of Intestine and Peritoneum.—Letulle concludes his illustrated description of intra-abdominal pneumatosis by stating that it is a complication of chronic obliterating lymphangitis, and that a laparotomy may lead to resorption of the gas and total subsidence of all the cysts. This has occurred repeatedly when compression of stomach or bowel by some cyst had made a laparotomy imperative.

Peripheral Vasoconstriction in Shock.—Among other arguments in favor of peripheral vasoconstriction as an important factor in shock, Ducastaing cites two cases of shock in which the slow, weak or absolutely imperceptible pulse became normal under the action of amyl nitrite.

Revue Neurologique, Paris

November, 1919, **26**, No. 11

*Facial Diplegia. A. de Castro (Rio de Janeiro).—p. 801.
Bernard-Horner Syndrome from Shell Shock. Léri and Thiers.—p. 808.
*Reflex Adduction of Eyeball. Id.—p. 810.
*Stunted Pyramidal-Cerebellar System. D. E. Paulian (Bucharest).—p. 815.
*Extraction of Bullet in Lateral Ventricle. G. L. Regard.—p. 818.
*Hypertrophic Neuritis. M. Dide and Courjon.—p. 825.
*Achondroplasia in Greek Art. A. Porot.—p. 833.

Facial Diplegia.—De Castro remarks that in his service at Rio a large number of cases of facial diplegia are encountered every year. The paralysis is rapidly progressive, and it may take days or months for it to subside. It may subside completely on one side while persisting on the other. When accompanying polyneuritis, the facial paralysis usually is bilateral and persists longest. Contracture is rare and seldom affects both sides. A series of illustrations are given of three typical cases.

Reflex Adduction of Eyeball.—Léri and Thiers give illustrations of a case in which any peripheral stimulus, such as touching the mucosa of the ear with cold water, or tickling the mucosa of the nose, induces at once a pronounced deviation inward of the eyeball on that side. This phenomenon was marked in two patients with other symptoms indicating injury of the labyrinth, and was negative in twenty-two other neurologic patients. It may possibly aid in detecting an upset in the muscle balance from excessive functioning of the third pair and weakness in its physiologic antagonists, the abducens or sympathetic.

Defective Development of Pyramidal-Cerebellar System.—A woman of 31 and her brother, 26, both present evidence of arrested development of the pyramidal system and afferent cerebellar tracts. The disturbances from this cause did not become apparent until about the age of 20 in each. There was a history of spinal cord disease in an uncle, and the mother had unmistakable signs of syphilis. The cases resemble those published as cerebellar ataxia, but Paulian prefers to label them familial pyramido-cerebellar dysgenesia, emphasizing also the inherited taint.

Extraction of Bullet in Lateral Ventricle.—Regard says that the rarity of the localization of the bullet in the lateral cerebral ventricle and its curious mobility are not so interesting in this case as the primary displacement of the projectile, the means taken to complete the diagnosis, and the successful extraction. The bullet entered at the posterior-inferior end of the left second parietal convolution but there was no word blindness, which tends to disprove the location of this special center at this point. The bullet probably did not land in the ventricle but was pushed into it by the strange expulsive force exerted by the brain tissue for foreign bodies partially embedded in it. Intense headache, somnolency and mental confusion were the symptoms, none pathognomonic, but roentgen examination with the head in different positions showed a displacement of 6 cm. of the bullet. It was easily extracted from the rear after it had been made to drop into the occipital extension of the ventricle and a large flap had been cut in the skull. The whole procedure proved so simple and easy that Regard says he would feel justified in attempting it in cases of apoplexy when hemorrhage into the ventricle is threatening to prove fatal. It could be done at one sitting, but he did not complete the operation till the following day as he wished to be certain of his asepsis.

Hypertrophic Neuritis in Adults.—Dide and Courjon report five cases with illustrations. The extreme atrophy of muscles began in the hands and arms in five personal cases and in four published by Long and by Hoffmann. In thirteen known cases no inherited or familial taint was discoverable. In ten cases the onset was between 30 and 40. The disease in adults may assume various types, and complicating cerebellar symptoms are rare.

Achondroplasia in Greek Art.—Porot relates that after the siege of Athens by the Romans, 86 B. C., some of the ships taking the loot from Athens to Rome were wrecked, and one of these wrecked ships was discovered a few years ago in the sand bars off Tunis. Its cargo of Greek statues, etc., is now installed in the museum at Bardo. Among them are some bronze statuettes of dwarfs which show all the attributes of the achondroplasic type described by Marie. The trunk, the head and the sexual organs in this type develop normally, but the long bones are stunted, and these features are faithfully reproduced in these dancing figures of which illustrations are given.

Correspondenz-Blatt für Schweizer Aerzte, Basel

Dec. 18, 1919, **49**, No. 51

*Effect of Pyelitis in Infancy on Kidneys Later in Life. E. Rhonheimer.—p. 1929.
*Functional Capacity of Tendon Sutures. J. Dubs.—p. 1938.
Venereal Disease in Swiss Army. W. R. Schnyder.—p. 1952. Cont'd.

Prognosis of Pyelitis in Infants for Later Life.—Rhonheimer has secured information in regard to the later life in 122 cases of pyelonephritis in infants. The diagnosis cannot be positive without examination of the urine, but the experiences related show that the urine may show pathologic findings for months and even for more than a year when the child seems otherwise to have entirely recovered. His examination from one to eight years later demonstrated entirely normal conditions in the urine; no recurrence during the interim was known in any instance. This complete healing of the pyelitis in infants is in direct contrast to what is observed with pyelitis in older children. In the latter, recurrence is so common that some clinicians consider the pyelitis of pregnancy merely the flaring up of the disease dating from childhood. He reviews the testimony of pediatrists, including Birk's case in which pyelitis at 9 was followed by grave recurrence at 11, but the urine and kidneys seemed to be normal throughout a pregnancy at 18. In Rhonheimer's 122 cases, about 23 per cent. were boys, and necropsy showed severe changes in the kidneys and only slight lesions in the bladder. This testifies that infection is blood-borne in infants, while in older children it is usually ascending infection. After infancy, fully 90 per cent. of pyelitis patients are females.

Functional Prognosis of Tendon Sutures.—It has generally been assumed that sutured tendons behave normally thereafter, but Dubs, in a personal experience with 100 cases and analysis of 375 cases on record of injury of tendons in the arm requiring suture, has found that the ultimate outcome is far from favorable. In over 43 per cent. the cause of the interference with function was adhesion to surrounding tissues; infection and suppuration were responsible only in 11.3 per cent. The outcome was poorest in the cases in which secondary suture had been done, and best when the suturing was done early. Even with primary suture, the outcome was bad in 50 per cent. of the extensor tendons and in 10 per cent. of the flexors. The earlier the suture the less danger of adhesions forming. The surgeon should make every effort to ward off adhesions, as the free play of the tendon is indispensable for proper functioning. Too little attention has been paid to this point hitherto.

Policlinico, Rome

November 1919, **26**, Medical Section No. **11**

*Hemolytic Splenomegaly. P. Biffis.—p. 393; Idem. Livio Losio.—p. 410.
*Pernicious Anemia. F. Marcora.—p. 424.

Hemolytic Splenomegaly.—Biffis reports eight cases of familial chronic jaundice with enlargement of the spleen, but no bile pigments in the urine. The jaundice did not manifest itself until between 22 and 25. The cases were all in several generations in one family. The children present all the symptoms except the jaundice; this will probably appear as they grow up. Removal of the spleen is always followed by improvement, but the abnormal fragility of the blood corpuscles persists unmodified. Only one case is known (Micheli) in which the corpuscles regained normal stability, but even in this case, reexamination several years later showed that the fragility of the corpuscles had returned. The jaundice is no index of the gravity of the condition. In the familial or congenital form, the jaundice is usually pronounced, while the other symptoms are often mild and there is little or no anemia. Biffis and Ceconi have previously published seven cases of the acquired type, and have recently encountered the familial cases here described and another set in a second family. The urobilinuria, attacks of pain in the right hypochondrium and paroxysmal intensity of the jaundice, which had begun at 25, all pointed to the acquired type in the case first seen, but investigation revealed seven other cases in the man's family tree, including his two children.

Splenectomy for Hemolytic Jaundice.—Losio reports a case of chronic hemolytic jaundice in a woman of 22 whose splenomegaly was first noted at the age of 12. He removed the spleen at 22, and the disease seemed to be cured for a time, but then all the symptoms gradually returned. The vessels in the spleen showed peculiar complex changes for which he knows of no precedent; among the other changes was a tendency to calcification of the middle coat. He remarks in conclusion that not only is there no criterion to distinguish the acquired from the congenital type but, in

some cases, it may be impossible to distinguish between primary and secondary jaundice.

Pernicious Anemia and Typhoid.—Marcora gives the minute clinical and necropsy details in a case of progressive pernicious anemia in which typhoid bacilli were found in the blood marrow and spleen, although there was nothing in the findings elsewhere or in the antecedents to suggest typhoid infection. The grave anemia had developed insidiously in the course of three or four months, with urobilinuria, and death about the sixth month. A colored plate shows the blood findings.

November, 1919, **26,** Surgical Section No. **11**

*Total Necrosis of Clavicle. G. Aperlo.—p. 349.
*Sarcoma of Frontal Sinus. P. Caliceti.—p. 353.
Modern Technics for Transfusion of Blood. A. Sebastiani.—p. 369.
*Pathology of Sweat Glands. G. L. Colombo.—p. 383.

Necrosis of Clavicle.—The girl of 7 was scratched in the back of the right hand by the nail of another child in play, and a furuncle developed, with secondary rapidly acute staphylococcus osteomyelitis of the clavicle, compelling its entire removal eight days after the primary scratch.

Sarcoma in Frontal Sinus.—Caliceti illustrates a case of rapidly growing primary sarcoma originating in the frontal sinus in a soldier. As long as the growth was restricted to the sinus it caused absolutely no symptoms. When these appeared the growth was already inoperable. If discovered or suspected in an early stage, it might be well to try an autovaccine, as Citelli recommends. Caliceti obtained most gratifying results with an autovaccine in a case of sarcoma of the upper jaw. He reviews the literature on malignant disease of the frontal sinus.

Changes in Sweat Glands.—Colombo found severe changes in the sweat glands in patients with nephritis, also in tuberculosis and in various chronic intoxications. The elimination of toxins through the sweat glands entails these changes in time, and he induced them in cats and rats by blocking kidney functioning.

Archivos Brasileiros de Medicina, Rio de Janeiro

August, 1919, **9,** No. 8

*Serotherapy of Anemia. Sylvio Prado Pastana.—p. 623.
*Treatment of Fractures. Alipio Santos.—p. 666.

Serotherapy in Anemia.—Prado Pastana says that with the Besredka technic it is a simple matter to obtain an antihuman hemolysis serum from rabbits. This hemolytic serum, as he calls it, has a potent stimulating action on the blood-producing centers. The blood corpuscles are produced in larger numbers, comparatively, than the hemoglobin. The hemoglobin takes a longer time to approximate normal, and it is wise to aid this with iron. The principal indication for this treatment is severe aplastic anemias, especially when the blood-producing centers seem exhausted and a stimulant is called for. The immediate effect surpasses that from administration of iron. The best results are observed with minute and well spaced doses; 1 c.c. of the 1:20 antiserum is the preferred dose, diluted with 9 c.c. of physiologic solution, and infused into a vein, very slowly after the first. None of the five patients whose cases are described with minute detail complained of the technic, and no trace of anaphylaxis was ever noticed. The intervals were from eight to twelve days, and only two or three injections were made.

Treatment of Fractures.—Alipio Santos describes the first case in Brazil treated by what he calls the Anglo-American method, that is, weight extension applied to the suspended limb. He extols the perfect healing and functional outcome.

Boletín de Medicina y Cirugía, Guayaquil

October-November, 1919, **17,** Nos. 125-126

*Etiology of Yellow Fever. H. Noguchi.—p. 139 and 155.

Noguchi's Research on Yellow Fever.—This is a Spanish translation in full of Noguchi's various publications on the clinical and other features of yellow fever and on the leptospira which he incriminates in the etiology. Much of the work was done at the Guayaquil hospital. Noguchi's charts and twelve photomicrographs are reproduced.

Brazil-Medico, Rio de Janeiro

Nov. 8, 1919, **33,** No. 45

*Pleurisy with Heart Disease. Luna Freire.—p. 353. Begun in No. 43, p. 337.
Epidemic Poliomyelitis in Uruguay. V. Escardó y Anaya.—p. 356. Cont'n. See abstract below.

Pleurisy with Heart Disease.—Luna Freire has recently encountered three cases of pleural effusion in the left side in persons with heart disease. Analysis of these cases and of the literature shows that the heart disease with arterial lesions and with pleural effusion on the left side originates in the aorta, and spreads secondarily to the myocardium. This suggests that syphilis may be the primary factor. The symptoms are the same whatever the origin of the pleurisy, but few think of testing for syphilis, and yet this might give the clue for effectual treatment. In his three cases chronic aortitis was evident, and one of the men, a physician, succumbed to the progress of the disease, with multiple hemorrhages, epistaxis, hematemesis and melena. In all, the heart was displaced toward the right of the sternum. He discusses the reasons why the effusion is generally on the right side with heart disease, while in his three cases the left side only was involved. In Beaufumé's sixteen cases, only one involved the left side. The mechanical factors explain the predilection of congestion and edema for the right side, but do not explain the pleurisy; infection is required for this. The term arterial cardiopathy should be restricted to the cases in which chronic inflammation of the large vessels of the base spreads to invade the myocardium or the valves, and syphilis is generally responsible for the inflammation of these large vessels. This conception allows a more favorable prognosis.

Revista Médica del Uruguay, Montevideo

November, 1919, **22,** No. 11

*Hemiplegia Consecutive to Influenza. F. Abente Haedo.—p. 771.
*Epidemic Poliomyelitis in Uruguay. V. Escardó y Anaya.—p. 779.
*Connection Between Syphilis and Tuberculosis. E. Mariño and J. C. Mussio Fournier.—p. 807. In French.
Comparative Analysis of French and German Arsphenamin. A. Prunell.—p. 812.

Hemiplegia After Influenza.—Abente's patient is a young man who for a few weeks after influenza presented symptoms of the Millard-Gubler type of hemiplegia. By exclusion, Abente accepts an infectious arteritis of influenzal origin as probably responsible for the hemiplegia.

Epidemic Poliomyelitis in Uruguay.—Escardó's address on this subject was presented at the recent International Child Congress. He comments in particular on the element of pain which was a feature of the disease during the three epidemics in Uruguay, 1906, 1912 and 1916. He mentions further two unpublished cases of cephaloplegia, like those described by Figueiras at Rio de Janeiro. The two cases were seen ten years ago by de Pena at Montevideo. Probably unrecognized poliomyelitis was responsible for the cephaloplegia. The child was totally unable to hold up its head, and there was also a slight tendency to paralysis. These symptoms subsided in about a week in one case, but the infant of 2 years succumbed to asphyxia. Escardó adds that serotherapy is being tried at Buenos Aires in poliomyelitis, and the results are quite encouraging.

Syphilis and Tuberculosis.—Summarized on page 359 when published elsewhere.

Berliner klinische Wochenschrift, Berlin

Oct. 13, 1919, **56,** No. 41

Proposed Reforms in Medical Education. O. Lubarsch.—p. 961.
The Sachs-Georgi Serologic Reaction in Meat Testing. E. Seligmann and F. von Gutfeld.—p. 964.
Paralysis of the Soft Palate after Influenza. G. Kickhefel.—p. 967.
*Hemostasis with Prostatectomy. A. Freudenberg.—p. 967.
What the War Has Taught Us About Nutrition. K. Bornstein.—p. 968

Local Use of Calcium Chlorid for the Prevention of Serious Hemorrhages in Suprapubic Prostatectomy.—After or during suprapubic prostatectomy one of the chief dangers, Freudenberg has found, lies in the serious hemorrhages that

so frequently prove fatal. He has, however, of late been using a method of prevention that he finds very satisfactory, namely, the local application of a 6 per cent. solution of calcium chlorid. From ten to twenty minutes before the operation, 100 c.c. of the solution are injected into the patient's bladder, the contents of which have been removed by catheter. Immediately before the skin incision is made, the fluid is withdrawn from the bladder and air is injected. After the enucleation of the prostate, for which the smallest possible incision in the bladder is made, the resulting cavity is plugged tight with medicated gauze that has been immersed in the calcium chlorid solution. Above this a large-sized drain is inserted. The balance of the cavity of the bladder is likewise plugged with the gauze dipped in the calcium chlorid solution. Through the Freyer drain a Nélaton catheter may be inserted and the greater part of the urine drawn off through a tube, thus preventing to a great extent the infiltration of urine into the tissues. The abdominal flaps are then sutured above and below close up to the drain. Following Freyer's technic, the bladder itself is not sutured. After twenty-four hours, the Freyer drain is removed; also the tampon in the upper part of the bladder. The tampon in the prostate cavity is not removed for two or three days. Caution then is necessary, and it may be advisable to use hydrogen dioxid to avoid hemorrhage from mechanical irritation. For bladder lavage during the first few days following the operation, calcium chlorid should be added by way of precaution. Freudenberg has operated in twenty-six cases in this manner without experiencing any serious difficulties from hemorrhages.

Deutsche medizinische Wochenschrift, Berlin

Oct. 16, 1919, **45**, No. 42

*Nonoperative Treatment of Hemorrhoids. I. Boas.—p. 1153.
*Regenerative Processes in Man. XX. Regeneration of Blood Vessels. A. Bier.—p. 1155.
*Meaning of Term "Uremia." W. H. Veil.—p. 1158.
*Pathologic Conditions in Skeleton from Undernutrition. A. Böhme. —p. 1160.
*Injuries of Middle Meningeal Artery. A. Salomon.—p. 1162.
Effusions in Peritoneum as Symptom of Intestinal Occlusion. A Galambos.—p. 1163.
*Causes of Quincke's Edema. H. Sieben.—p. 1164.
*Gonococcus Otitis in Nurslings. H. Putzig.—p. 1165.
*Poisoning by Oil of Eucalyptus. P. Auerbach.—p. 1165.
Proposed Reforms in Medical Course. J. Schwalbe.—p. 1166. Cont'd.

Radical Nonoperative Cure of Hemorrhoids.—After twenty years' experience in treating hemorrhoids, Boas finds injections of 96 per cent. alcohol the most effectual measure. For years he had used injections of phenol (Kelsey's method) with fair success, but the results were often not entirely satisfactory. Recurrences were rather frequent. The main objections to phenol are its escharotic and toxic effects. Boas sought for an injecting medium that was free from these objections, and for four years has been using 96 per cent. alcohol with eminent satisfaction. He describes his method under three headings: (1) preparation of the patient; (2) the treatment proper, and (3) after-treatment. The patient must remain in bed during the treatment. Boas objects to the ambulant treatment of hemorrhoid patients which he thinks, if he is correctly informed, is all too prevalent in America. By means of the Bier suction glass the hemorrhoids are drawn out of the anus. From experience one learns how long and how vigorously the suction must be applied in order to bring forth all the hemorrhoids, for it is essential in this method that every nodule should be injected. When the operator has thus informed himself as to the number and size of the hemorrhoidal tumors, they are returned within the rectum. If the hemorrhoids bleed too freely it is well to control the hemorrhage by repeated injections of calcium chlorid. On the first day the patient is given a purge. After securing a thorough evacuation, the bowel is cleansed the next day by means of a soapsuds enema. The treatment proper begins with the patient in the knee-chest position. With the Bier suction glass, the hemorrhoidal tumors are now brought well into view. With a record syringe of 10 c.c. capacity, from 2 to 5 c.c. of 96 per cent. alcohol are injected, carefully but quickly, deep into the hemorrhoids. In one of moderate size 2 c.c. may be injected in the upper half and 2 c.c. in the lower half. In an especially large tumor, 5 c.c. may be required. The whole procedure takes only two or three minutes even when the vascular tumors are numerous. Occasionally the injections are painful and he now uses a local anesthetic from fifteen to twenty minutes before applying the treatment. A slight burning sensation may be felt for a time, but there should be ordinarily no further discomfort. After the injections the hemorrhoidal mass should, if at all possible, be returned to the bowel. If the mass is large, this may entail some difficulty. In rare cases it may be necessary to leave a small part of the mass outside of the rectum, but this only delays the cure a few days, as through gradual necrobiosis the extra-anal portion will slough off. The after-treatment is important. The patient remains in bed for four days in the dorsal recumbent position and receives during that period only a liquid diet, in order to reduce intestinal activity to the minimum. On the fourth or fifth day a purgative is given. If prolapse of the injected piles does not occur during the first stool, it will not usually occur at all, so that the patient can then be allowed to resume a normal diet and will soon be able to move about freely. The final test, applied about a week after the injection, consists in using the Bier suction glass again to see if the hemorrhoids are now securely anchored within the rectum. Boas has treated fifty-two patients by this method. A radical cure was effected in all the cases and there have been no recurrences as yet, although in two cases a second injection became necessary. The total amount of alcohol injected never exceeded 10 c.c.

Regenerative Processes in Blood Vessels.—As regards transplantation of blood vessels, Bier believes that autoplastic transplants are the only ones that can be counted on. Various investigators had maintained that homoplastic and heteroplastic transplants, or even segments of dead blood vessels, would live and conduct the blood stream. But the microscope has shown that such transplants suffer the same fate as all other homoplastic and heteroplastic transplants: they disintegrate and are absorbed, while other surrounding tissues, usually scar tissue, take their place. Bier adds that the remarkable part of it is that even this scar tissue may actually perform the needed function. For a more extended treatment of this question, Bier refers to the investigations of Borst and Enderlen published in the *Deutsche Zeitschrift für Chirurgie* **99,** June, 1909.

Meaning of the Term "Uremia."—The current views in regard to the pathogenesis of uremia are only approximately correct and need revision, Veil thinks. The term "uremia" covers too many things that in the light of recent investigations are not closely associated. If for traditional reasons the term must be retained, it should be used, he says, to designate "only azotemia or ureahemia." Its diagnosis should be based on the chemical proof of abnormal quantities of the constituents of the urine and of nitrogenous bodies in the blood.

Bone Disease from Undernutrition.—Böhme says that the similarity between the clinical picture of osteomalacic affections and that of ordinary rickets led to the use of the same therapy, which proved adequate; namely, highly nutritious diet that was sufficiently varied, prevention of unnecessary weight bearing by the bones and administration of cod liver oil with phosphorus. This therapy usually produced an improvement in the general condition, a rapid remission of the pain and the return of strength, so that the patient was soon able to walk and later to go about his work. In deformities of the legs, corrective bandages worn during the night were found beneficial. The fact that the same external conditions sometimes produce rachitis tarda and sometimes osteomalacia raises the question as to the relation between the two diseases. The pathologists support the view that from an anatomic standpoint the two diseases cannot be differentiated. Clinicians insist on a differentiation, especially from the pathogenetic standpoint, maintaining that in osteomalacia a hyperfunction of the ovaries is a main cause. Böhme thinks that the observations of the war period bring out also the close clinical relationship between the two diseases.

The bone changes in rickets and in osteomalacia are essentially the same. In respect to localization, however, there is some difference, which may perhaps be explained by the modifying influence of the ovaries. The symptoms and clinical course of this war period type of osteomalacia differ from those of peace times. That the glands of internal secretion were often damaged could be concluded from the fact that certain secondary sexual characteristics were repressed.

Injury of the Middle Meningeal Artery.—The diagnosis of injury of the middle meningeal artery, while an easy matter in typical cases, becomes exceedingly difficult if the classical symptoms of cerebral pressure are absent or are obscured. Salomon gives as convincing evidence of the difficulty attending the diagnosis of epidural hematomas the fact, as cited by Brun, that of thirty-nine cases of hematoma in Krönlein's service at Zurich only nineteen were diagnosed before the death of the patients, and thus could be given operative treatment. To add to the difficulties, patients are often admitted to the hospital in an unconscious state, nothing of their past history being known, while the brain is completely paralyzed. Salomon thinks a more widespread knowledge of atypical lesions of the middle meningeal artery would lead to better results. The diagnosis and the indications for operation should not be allowed to depend so exclusively on the classical symptoms of pressure on the brain. Though aphasia may be the only focal symptom, this alone may at times be taken as an indication for operation. If after two or three days' observation, in spite of temporary improvement, the typical brain pressure pulse, the aphasia and the mental condition remain the same, we are justified in assuming the presence of a good-sized, unabsorbable extravasation of blood, the removal of which is clearly indicated. Salomon is convinced that extension of the operative indications will reduce quite perceptibly the number of cases that come to necropsy, which now amount to about 50 per cent. of all cases.

Quincke's Edema.—Sieben reports a case of influenza in a 13 year old girl which was followed by chorea and a concurrent angioneurotic edema. He has observed a number of cases, in which not only chorea but also other nervous diseases were associated with influenza, so that he does not hesitate to count the chorea and edema among the after-effects of influenza. Furthermore, he reports as after-effects of influenza: serious maniacal emotional conditions, and even genuine mania of the severest type, necessitating confinement of the patient in an asylum but with final complete recovery. If Quincke's edema follows one infectious disease (influenza), it may possibly follow other infectious diseases. If there are no intestinal symptoms that point to the origin of the disease, it would be well to look for some infection that may have played an important part in its genesis.

Gonococcus Otitis in Infants.—Putzig reports a case of purulent otitis media in a 14 month old child which occurred nearly two months after the child had been successfully treated for a typical gonorrhea. He thinks that it was due to a second infection transmitted from the mother who was still suffering from a specific gonorrheal discharge. He emphasizes the need of bacteriologic examination of the discharge in all cases of persistent suppuration of the ear in infants, especially those who have had gonococcus infection, as knowledge of the gonorrheal origin makes possible specific treatment, such as with 1 per cent. protargol solution and, if necessary, potassium permanganate lavages, which usually bring about a cure in a few days. If a bacteriologic examination is not made, the child may be seriously injured by a protracted otitis, and through lack of knowledge of the danger, other members of the family may become infected.

Poisoning by Oil of Eucalyptus.—Auerbach reports a case of poisoning in a man of 47 who had ingested about 20 c.c. of oil of eucalyptus. Half an hour afterward he was found unconscious in bed. Auerbach found the patient cyanotic; with a weak, slightly accelerated pulse, and covered with a cold sweat. The pupils were contracted and fixed. The area of cardiac dulness was increased, and breathing was shallow. Ingestion of milk caused vomiting, and milk lavage brought forth distinct evidence of eucalyptus oil. The condition of the patient slowly improved, and complete recovery followed on the fourth day. Auerbach gives this account of the case because he finds in the literature few reports of poisoning from oil of eucalyptus.

Nederlandsch Tijdschrift v. Geneeskunde, Amsterdam

Oct. 18, 1919, **2**, No. 16

*Actinomycosis of Lung. G. H. Moll van Charante.—p. 1150.
*Growth of Urinary Calculi. F. Hijmans.—p. 1159.
Case of Ascending Paralysis. A. Q. van Braam Houckgeest.—p. 1163.
*Present Status of Acute Purulent Pleurisy. W. F. Wassink.—p. 1165.

Actinomycosis of the Lung.—Moll van Charante reports the case of a man of 45 with a history and aspect suggesting tuberculosis, but a very tender point was found in the interscapular space, with dulness, and the vocal fremitus was weak, and there were some râles. Roentgenoscopy revealed what seemed to be periostitis of ribs, but the discovery of actinomycetes in the sputum cleared up the diagnosis. Necropsy showed symmetrical abnormal conditions in the periosteum of nearly all the ribs, the periosteum often sagging like a bag, and the lungs were studded with minute lumps. In a second case pain in the left side for three months was finally explained by a swelling assumed to be a tuberculous process in a rib. The infiltration was hard as wood but soon softened, and an incision released pus containing the actinomyces. Symptoms suggesting pleurisy with effusion developed, back of the process in the chest wall. No fungi were found in the sputum and the lung did not seem to be involved. Complete recovery followed ample incisions, roentgen treatment, potassium iodid and copper sulphate, locally and internally. Agglutination may help in the diagnosis; the actinomyces does not become agglutinated but the patients' serum is said to agglutinate *Sporotrichum beurmanni*, although Harbitz and Israel were unable to confirm this. After long coughing and expectorating, sudden violent pain in side and chest is soon accompanied by the hard infiltration, with final softening and retraction of the chest wall. With secondary infection, air from the lung may get into the abscess and the succussion sounds then are pathognomonic. One case is on record of ten years' duration, but others are known with a fatal outcome in three months. Potassium iodid, eucalyptus oil and roentgen treatment have not benefited more than a few cases. Illich found no recoveries in fifty-eight cases, but Mayer found seven in thirty-five, and Netter has reported a case of complete recovery in four weeks under 6 gm. daily of sodium iodid. Two cases are on record of recovery under vaccine therapy when conditions seemed very grave, seventeen injections in one case and six in the other. Operative intervention as for cancer has now a record saving twelve otherwise doomed patients.

Growth of Urinary Calculi.—In one of Hijmans' two cases, 11 large stones, weighing altogether 110 gm., were found in the bladder six years after cystotomy to clear the bladder of 2 small stones. In a second case, two years after pyelotomy 6 phosphate stones were found in the kidney pelvis, weighing in all 40 gm. Such cases teach the necessity for keeping patients under surveillance after an operation for urinary calculi, and regulating their habits to correspond to the urine findings. Regular supervision at three months' intervals might reduce materially the number of cases of recurring urinary calculi.

Acute Purulent Pleurisy.—Wassink analyzes recent literature on this subject, and remarks that the trend seems to be to restrict intervention to puncture in recent cases of rapid onset with numerous cocci in the empyema or serous effusion. The puncture may be supplemented or not with insufflation of gas. If the condition of the lung permits, Mozingo's method of closed sterilization may be tried and may ward off actual empyema (The Journal, Dec. 21, 1918, p. 2062). The Dakin method is still on trial, and should not be attempted outside of a large hospital. The experiences with open treatment of empyema in young children have been extremely unfavorable. Repeated puncture seems to be all the intervention that should be attempted in infants.